# AgriProfit$

## The Economics of Honey Production in Alberta 2002

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G. Nabi Chaudhary

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# SECTION I

## INTRODUCTION

Costs and returns for livestock, crops and several other enterprises have been monitored in the province in an extensive way since the 1960's. These studies have been viewed as an important tool for assisting producers in their cropping decisions and the federal and provincial governments in developing policies and programs for the different farm enterprises. Where information gaps existed in other provinces, results from these studies have served as the basis to fill those gaps.

Production costs and returns for the beekeeping (honey production) sector of the agriculture industry have been monitored periodically since the early 1970's. The 2002 costs and returns study is a continuing effort to monitor honey production in the province. Information presented in this report can be used for several purposes including program evaluation and policy development for the honey industry, etc. It would also assist individual study participants to compare their costs and returns with the group averages to develop/manage their operations better.

## OBJECTIVES OF THE STUDY

Following are the objectives of this study:

1. To determine production costs and returns associated with beekeeping in Alberta.
2. To establish physical input/output relationships for beekeeping in Alberta.
3. To provide each study participant with a detailed analysis of his/her beekeeping operation and an opportunity to compare the operation with the group averages.
4. To observe regional differences in costs and returns for beekeeping operations across the province.
5. To document how variation in size of operation affects net returns.
6. To provide an up-to-date economic report on the beekeeping in Alberta to assist governments in developing programs and policies for this industry.

## THE STUDY SAMPLE

The thirteen (13) beekeepers who participated in the 2000 cost of production survey were contacted again to provide data for 2002 honey production. Another ten (10) beekeepers were also contacted to participate in the 2002 cost of production study. These beekeepers were sent the questionnaire through the mail along with pre-paid addressed envelopes to return the completed responses. Out of the 23 beekeepers who have participated in the 1999 and 2000 studies only 12 completed and returned the questionnaires for the 2002 honey study. Therefore the results presented in the report are based on a sample of 12 beekeepers across the province. Although the sample size appears to be small, the results from the survey presented here provide useful data on the beekeeping industry in Alberta.

Regional breakdown of the 12 beekeepers was as follows:

| GROUP | REGION | NUMBER OF PARTICIPANTS | AVERAGE NUMBER OF HIVES PER BEEKEEPER |
|---|---|---|---|
| I | Southern (1) -1<br>Central (2) -0<br>Northeast (3) -2 | 3 | 1,617 |
| II | Northwest (6) | 6 | 1,879 |
| III | Peace River (3) | 3 | 565 |
| **TOTAL** | | **12** | **1,485** |

The study sample of 12 beekeepers was further divided into the following two groups by size of operation:

| GROUP | SIZE OF OPERATION | NUMBER OF PARTICIPANTS | AVERAGE NUMBER OF HIVES PER BEEKEEPER |
|---|---|---|---|
| IV | Up to 1,000 hives | 6 | 598 |
| V | Over 1,000 hives | 6 | 2,372 |
| **TOTAL** | | **12** | **1,485** |

The number of hives for honey production in the study sample was 17,882 for the 2002 honey production year, i.e., about eight (8) percent of the total number of hives in the province. The survey data showed that the largest honey producer operated 4,500 hives and the smallest about 300 hives during the 2002 honey production year. Although the sample size for costs and return data was relatively small, yet it provides enough information that results can be used as guidelines.

# SECTION II

## METHOD OF ANALYSIS

The raw data obtained from 12 beekeepers across the province was reviewed for information gaps before entering into computer for analysis. Individual analyses, provincial and group averages (by region and size of operation) were developed using the Paradox program. Individual analyses were reviewed with the study participants before finalizing the group averages for this report.

## HONEY PRODUCTION IN ALBERTA

Honey production in Alberta has widely fluctuated during the last several decades. Similarly, the number of beekeepers in the province has varied considerably since the seventies. It has ranged from a low of 702 beekeepers in 2002 to 2,000 in 1975 and 1976. Since 1985, the number of beekeepers has steadily declined from 1,700 to 702 in 2002, a decrease of about 59 percent. Number of beekeepers registered in 2002 is the lowest number recorded and shows industry consolidation. In 2002, the number of registered beekeepers decreased marginally to 702, a decrease of about five percent over 2001.

The number of honey producing colonies during the last two decades has also fluctuated considerably, i.e., ranging from 110,000 in 1970 to 227,000 in 2002. The number of colonies per beekeeper increased steadily from 177 in 1991 to 323 in 2002. However, the number of beekeepers declined by over 15 percent during the same period. Since 1994, the number of commercial beekeepers in the province has ranged between 702 to 750. The number of colonies per beekeeper has been increasing since 1994 reaching 227,000 in 2001. In 2002, Alberta had a record 227,000 producing colonies owned and operated by over 700 beekeepers. A historical summary of the number of beekeepers, colonies, colonies per apiary (beekeeper), production per colony and price of honey received by beekeepers in Alberta (1970 to 2002) is presented in Table 1. Figures 1, 2 and 3 present the trends from 1970 to 2002 regarding the number of colonies in Alberta, production per colony and honey price per pound, respectively.

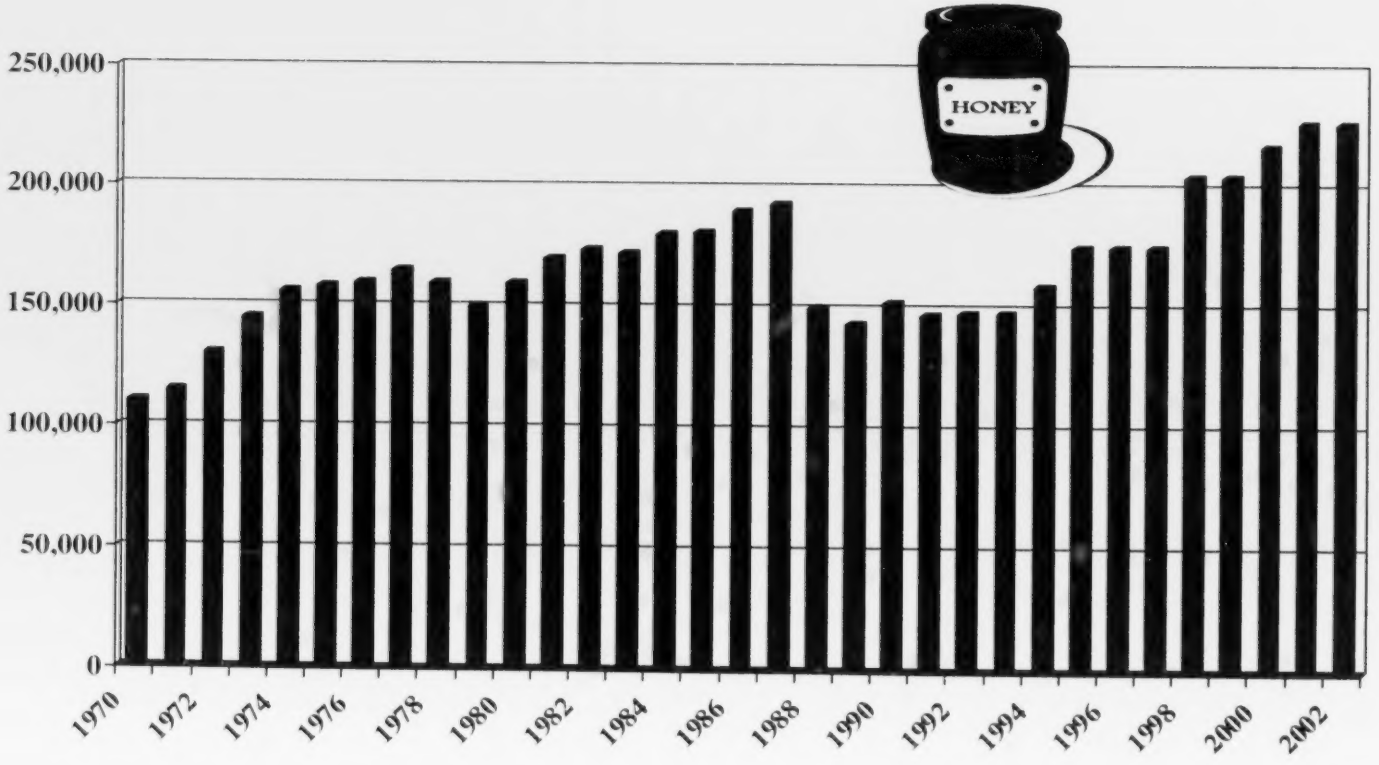
**TABLE 1:**

**HISTORICAL DATA ON HONEY PRODUCTION IN ALBERTA, 1970 - 2002**

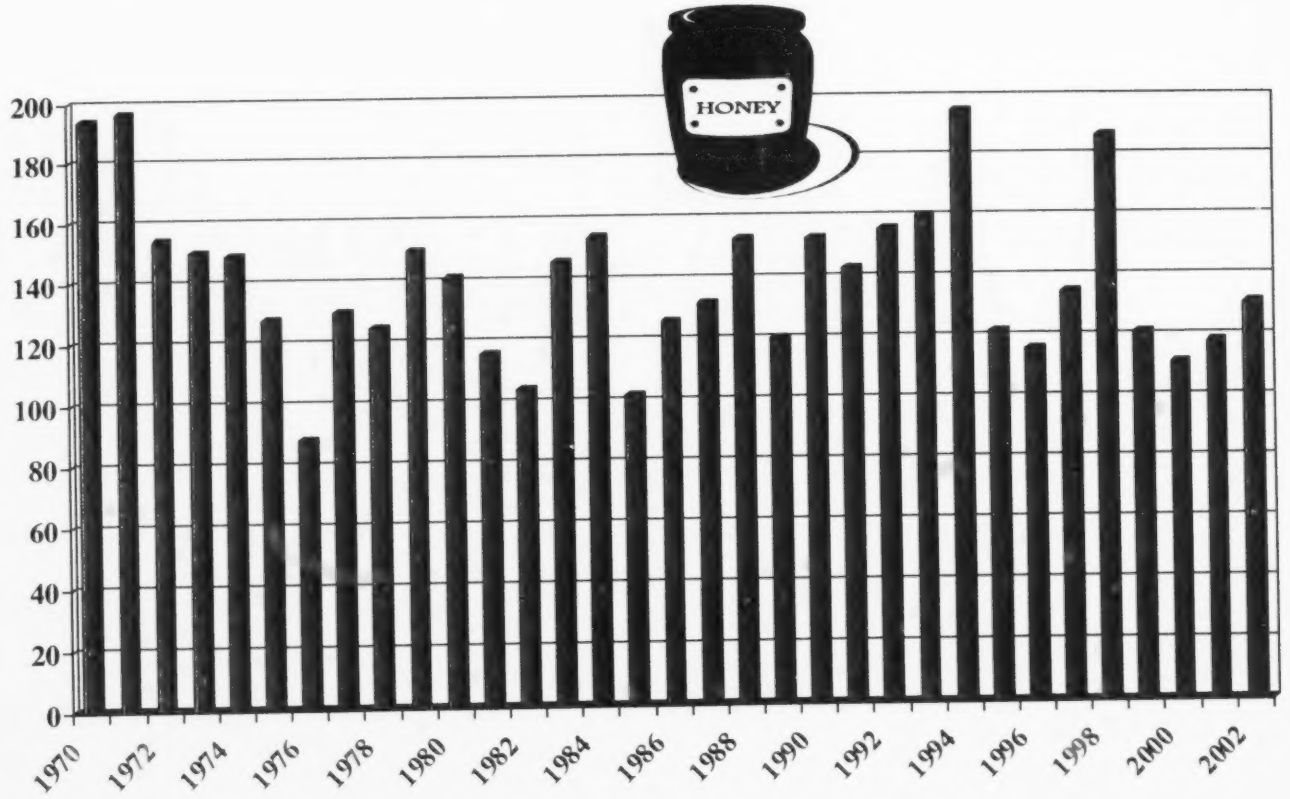
| Year | Number of Beekeepers | Number of Colonies | Colonies Per Apiary | Production Per Colony (lbs.) | Price Per Pound (cents) |
|---|---|---|---|---|---|
| 1970 | 1,200 | 110,000 | 92 | 194 | 14.0 |
| 1971 | 1,200 | 115,000 | 96 | 196 | 20.0 |
| 1972 | 1,20 | 130,000 | 108 | 154 | 31.0 |
| 1973 | 1,300 | 145,000 | 112 | 150 | 46.0 |
| 1974 | 1,800 | 156,000 | 87 | 149 | 46.0 |
| 1975 | 2,000 | 158,000 | 79 | 128 | 39.9 |
| 1976 | 2,000 | 160,000 | 80 | 88 | 37.2 |
| 1977 | 1,800 | 165,000 | 92 | 130 | 43.1 |
| 1978 | 1,800 | 160,000 | 89 | 125 | 50.8 |
| 1979 | 1,.700 | 150,000 | 88 | 150 | 57.2 |
| 1980 | 1,800 | 160,000 | 89 | 141 | 58.1 |
| 1981 | 1,700 | 170,000 | 100 | 116 | 64.4 |
| 1982 | 1,650 | 174,000 | 105 | 104 | 62.2 |
| 1983 | 1,610 | 172,000 | 107 | 146 | 59.9 |
| 1984 | 1,600 | 180,000 | 113 | 154 | 48.5 |
| 1985 | 1,700 | 181,000 | 106 | 102 | 56.3 |
| 1986 | 1,700 | 190,000 | 112 | 126 | 59.9 |
| 1987 | 1,480 | 193,000 | 130 | 132 | 41.7 |
| 1988 | 1,140 | 150,000 | 132 | 153 | 39.9 |
| 1989 | 855 | 143,500 | 168 | 120 | 49.0 |
| 1990 | 840 | 152,000 | 181 | 153 | 58.2 |
| 1991 | 830 | 147,000 | 177 | 143 | 57.8 |
| 1992 | 800 | 148,000 | 185 | 156 | 58.9 |
| 1993 | 761 | 148,000 | 194 | 160 | 68.5 |
| 1994 | 750 | 159,000 | 212 | 195 | 68.2 |
| 1995 | 750 | 175,000 | 233 | 122 | 83.3 |
| 1996 | 750 | 175,000 | 233 | 116 | 125.3 |
| 1997 | 725 | 175,000 | 241 | 135 | 110.2 |
| 1998 | 730 | 205,000 | 281 | 187 | 88.7 |
| 1999 | 725 | 205,000 | 283 | 121 | 81.3 |
| 2000 | 747 | 217,000 | 290 | 111 | 83.1 |
| 2001 | 739 | 227,000 | 307 | 118 | 102.6 |
| 2002 | 702 | 227,000 | 323 | 131 | 196.1 |

Source: Agriculture Statistics Yearbook, Statistics and Data Development Unit, AAFRD, 1971-2002, Edmonton, Alberta

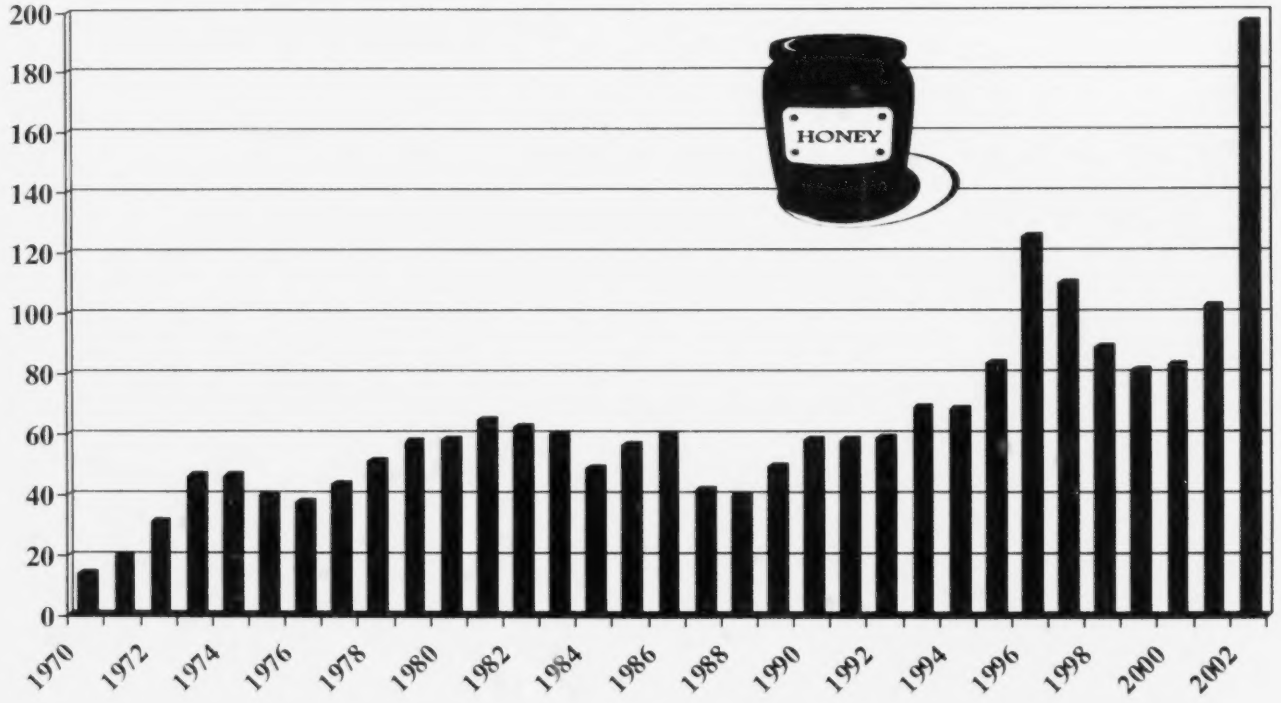
# Figure 1: Number of Colonies in Alberta, 1970-2002



# Figure 2: Production Per Colony in Alberta, 1970-2002 (lbs)



# Figure 3: Honey Price per Pound in Alberta, 1970-2002



***Total Value of Honey:***

Total value of honey is based on:

- Bulk honey sales;
- Bulk honey inventory;
- Consumer pack sales;
- Consumer pack inventory; and
- Other honey sales.

***Total Value of Production:***

In addition to total value of honey, total value of production includes:

- Wax sales;
- Pollen sales;
- Crop insurance receipts;
- Miscellaneous income (any program payments);
- Less honey purchase of resale: and
- Hive rental - pollination.

The study participants were asked to provide actual sales and an estimate of expected price for any honey held in inventory and/or any other stock.

***Variable Costs:***

Most of the inputs used in honey production were purchased during the production year and recorded as such in the year-end statement. The study participants were asked to provide estimates for those costs for which actual records were not available, i.e., an inventory carried from last year. In 2002, the average hourly wage for hired labour was calculated at $10.50 per hour and/or the actual wage reported by the study participant. Operating interest was the actual amount paid by the study participant. Operator's and family labour (unpaid labour) were valued at $10.50 and $7.50 per hour, respectively. The study participants were asked to provide estimates of hours spent on the honey operation by their family member(s) and themselves.

***Capital Costs:***

Capital costs include land rent/lease, building rent and forage access, bee equipment, and vehicles, etc. Capital interest was the actual amount paid by the study participants for capital purchases.

***Cash Costs:***

Cash costs represent out-of-pocket costs incurred during the production period and marketing of honey. It does not include costs associated with operator's and family labour and depreciation for buildings and equipment.

***Total Production Costs:***

Total production costs comprise of variable costs (B) and capital costs (C).

***Management Indicators:***

Management indicators presented at the bottom of various tables show gross margin (total value of production less cash costs), return to unpaid labour, investment and equity. These indicators provide profit margins and economic viability of honey production at the provincial level; by regions and size of operations.

# SECTION III

## HONEY PRODUCTION COSTS AND RETURNS IN ALBERTA

The results in Table 2 are based on data provided by 12 beekeepers across the province. In 2002, honey produced for sale by an average study participant was 254,128 pounds, of which 227,398 pounds (89%) were sold as bulk honey. Bulk honey inventory for the 2002 honey crop was almost non-existent at the time of data collection. It amounted to only 208 pounds on an average beekeeper. Consumer pack sales and consumer pack inventory were 2,393 and 17,858 pounds, respectively. Other honey sales amounted to 6,271 pounds per beekeeper in 2002. The average yield per hive for the 12 study participants was estimated at 171 pounds. The average number of hives per study participants was 1,485. The average honey production per hive for this group of beekeepers was higher by 40 pounds compared to the provincial average of 131 pounds. Because of the relatively small sample size and location of the participants for the study, production per hive is difficult to compare. Details on honey, wax and pollen sales and other income are presented in Table 2.

Total value of honey sold by an average study participant (bulk sales, inventory, consumer pack sales, consumer pack inventory, and other honey sales) amounted to $528,297 in 2002. Average value per hive for 1,485 hives was $356 or $2.08 per pound. When wax/pollen/other sales; crop insurance receipts, miscellaneous receipts were included to the value of honey, then total value of production increased to $552,405 or $372 per hive ($2.17 per pound of honey produced) in 2002. Because of the limited supply of honey, increase in price was just unprecedented. Honey prices in 2002 increased by almost 236 percent over the price in 2000 and by 91 percent in 2001.

***Variable Costs:***

Variable costs include all out-of-pocket costs and unpaid labour which amounted to $164,744 per average study participant in 2002. In terms of variable costs per hive, average amount was $111 per hive ($0.65 per pound). Because of the producers' interest in knowing their variable costs for each basic unit of production, these costs were broken into as much detail as possible. The most significant inputs which made up major portions of variable costs were

**Table 2** **Honey Production Costs and Returns, Alberta, 2002**

| | | | Total $ | $/Hive | $/Lb. |
|---|---|---|---|---|---|
| (A) | | | | | |
| 1. Bulk Honey Sales | 227,398.19 | lbs | 477,812.72 | 321.72 | 2.10 |
| 2. Bulk Honey Inventory | 208.33 | lbs | 416.67 | .28 | |
| 3. Consumer Pack Sales | 2,393.08 | lbs | 6,030.46 | 4.06 | |
| 4. Consumer Pack Inventory | 17,857.75 | lbs | 31,033.98 | 20.90 | |
| 5. Other Honey Sales | 6,271.08 | lbs | 13,002.71 | 8.76 | |
| 6. Wax/Pollen/Other Sales | 3,117.85 | lbs | 7,769.88 | 5.23 | |
| 7. Crop Insurance Receipts | | | 5,752.53 | 3.87 | |
| 8. Miscellaneous Receipts | | | 9,446.01 | 6.36 | |
| 9. Less: Honey Purchase for Resale | | | 1,139.96 | .77 | |
| **VALUE OF PRODUCTION** | | | **552,404.91** | **371.95** | **2.17** |
| (B) | | | | | |
| 1. Bee Purchases - Package Bees | | | 6,247.17 | 4.21 | |
| 2. Bee Purchases - Queens | | | 8,515.60 | 5.73 | |
| 3. Freight & Trucking | | | 2,241.32 | 1.51 | |
| 4. Feed - Sugar | | | 19,736.23 | 13.29 | |
| 5. Medicinal Sugar/Bee Repellent | | | 9,069.23 | 6.11 | |
| 6. Product & Crop Insurance | | | 482.29 | .32 | |
| 7. Fuel | | | 6,223.69 | 4.19 | |
| 8. Repairs - Machine | | | 9,557.65 | 6.44 | |
| 9. Repairs - Buildings & Improvements | | | 6,413.17 | 4.32 | |
| 10. Utilities & Heating Fuel | | | 7,470.58 | 5.03 | |
| 11. Custom Work & Machine Rental | | | 2,866.70 | 1.93 | |
| 12. Assoc. Dues, Prof'l Fees, Promotion & Travel | | | 5,749.82 | 3.87 | |
| 13. Small Tools, Supplies & Miscellaneous Expenses | | | 9,703.74 | 6.53 | |
| 14. Operating Interest | | | 1,724.04 | 1.16 | |
| 15. Paid Labour & Benefits | 4,066.36 | hours | 52,085.41 | 35.07 | |
| 16. Unpaid Labour | 1,586.42 | hours | 16,657.38 | 11.22 | |
| **VARIABLE COSTS** | | | **164,744.01** | **110.93** | **.65** |
| (C) | | | | | |
| 1. Land Rent / Lease, Bldg. Rent & Forage Access | | | 1,525.58 | 1.03 | |
| 2. Taxes, Licences & General Insurance | | | 5,507.47 | 3.71 | |
| 3. Equipment & Building a) Depreciation | | | 58,107.99 | 39.13 | |
| b) Lease Payments | | | .00 | .00 | |
| 4. Paid Capital Interest | | | 6,400.21 | 4.31 | |
| **TOTAL CAPITAL COSTS** | | | **71,541.26** | **48.17** | **.28** |
| (D) **CASH COSTS** (B+C-B16-C3a) | | | **161,519.91** | **108.76** | **.64** |
| (E) **TOTAL PRODUCTION COSTS** (B+C) | | | **236,285.27** | **159.10** | **.93** |
| (F) **GROSS MARGIN** (A-D) | | | **410,260.01** | **276.24** | **1.61** |
| **RETURN TO UNPAID LABOUR** (A-E+B16) | | | **352,152.02** | **237.11** | **1.39** |
| **RETURN TO INVESTMENT** (A-E+C4) | | 52.9 % | **341,894.86** | **230.21** | **1.35** |
| **RETURN TO EQUITY** (A-E) | | | **335,494.64** | **225.90** | **1.32** |

**MANAGEMENT**

| | |
|---|---|
| Number of Hives | 1,485.17 |
| Average Yield per Hive (Lbs.) | 171.11 |
| Honey Produced (Lbs.) | 254,128.44 |

paid labour and benefits followed by un-paid labour, bee expenses (sugar, bee purchase, medicine, icing sugar), supplies and miscellaneous expenses (beehive parts, drums, containers, advertising, insurance and operating supplies), fuel and building/equipment repairs and maintenance.

The study participants were asked to estimate time spent by their family members and themselves in regards to the honey operation. The time spent by the operator was valued at $10.50 per hour and $7.50 per hour for a family member(s).

***Capital Costs:***

Capital costs (C) are comprised of land rent/lease, building rent and forage access, depreciation for buildings, bee equipment and vehicles, lease payments and capital interest paid. Average total capital cost amounted to $71,541 or $48 per hive ($0.28 per pound of honey produced) per study participant in 2002.

***Cash Costs:***

Cash costs (D) include all out of pocket costs incurred during the honey production period. These costs amounted to $161,520 per average beekeeper in the study for the 2002 honey production. In terms of average cash costs per hive, the amount was $109 or $0.64 per pound of honey produced.

***Total Production Costs:***

Average total production cost in 2002 was estimated at $236,285 for an average honey operation with 1,485 hives. Average production cost per hive or per pound of honey produced was $159 or $0.93, respectively. Details on total production cost for an average study participant are presented in Table 2.

***Management Indicators:***

When cash costs (D) were deducted from the total value of honey production (A-D), average study participant showed a positive gross margin of $390,885 per beekeeping operation. Gross margin per hive was $263 and $1.54 per pound of honey produced.

Average return to unpaid labour in 2002 was estimated at $332,777 per study participant. In terms of return to unpaid labour per hive, it amounted to $224 or $1.31 per pound of honey produced per beekeeping operation in 2002.

Average return to investment was positive at $322,520 per operation or over $217 per hive ($1.27 per pound). Return to equity per hive was also positive at $316,120 per average

beekeeper or $213 per hive ($1.24 per pound) for honey produced in 2002.

***Investment Costs:***

Investment costs were divided into four categories, namely land, buildings, bee equipment (including machinery), and vehicles.

The study participants were asked to provide market value of land, buildings, bee equipment, machinery and vehicles to estimate total investment and depreciation for an average beekeeping operation. Actual interest paid on capital was used to arrive at total capital cost which also included depreciation for buildings, bee equipment, and vehicles.

For the study sample, land associated with the beekeeping operation was almost 13 acres, valued at $11,650 ($896 per acre) or $8 per hive. Building investment per study participant was estimated at $145,419 or $98 per hive. Bee equipment investment was $395,180 per average operation or $266 per hive. Machinery (automotive) investment was based on the percentage use of vehicles for the honey operation. This investment was estimated at $93,615 or $63 per hive in 2002. When all of the investment items were added together, total investment amounted to $645,864 per average beekeeping operation or $435 per hive. Details on land, buildings, bee equipment and machinery investment are presented in Table 3.

Table 3 **Honey Production Enterprise Investment, Alberta, 2002**

| **INVESTMENT SUMMARY:** | | **Total $** | | **$/Hive** |
|---|---|---|---|---|
| Land | 12.66 acres | 11,649.83 | | 7.84 |
| Buildings | | 145,419.14 | | 97.91 |
| Bee Equipment | | 395,180.31 | | 266.08 |
| Machinery | | 93,614.65 | | 63.03 |
| **TOTAL INVESTMENT** | | **645,863.94** | | **434.88** |
| **INVESTMENT DETAIL:** | | Enterprise Value ($) | Age (Years) | Depreciation ($) |
| **Land** | | **11,649.83** | | |
| Honey House | | 76,743.67 | 12.08 | 3,837.18 |
| Wintering Shed | | 1,960.00 | 50 | 98.00 |
| Houses(25%) | | 6,372.52 | 15.92 | 318.63 |
| Other Bldgs | | 60,342.96 | 11.51 | 3,017.15 |
| **Buildings Sub-Total** | | **145,419.14** | | **7,270.96** |
| Hives | | 253,969.75 | 12.33 | 29,206.52 |
| Pallets | | 11,269.17 | 7.25 | 1,295.95 |
| Fork Lift | | 22,645.83 | 9.98 | 1,811.67 |
| Hive Feeders | | 3,244.92 | 8.83 | 373.17 |
| Super Elevator | | .00 | .00 | .00 |
| Uncapping Machines | | 6,612.50 | 8.75 | 529.00 |
| Honey Extractor | | 12,283.33 | 9.75 | 982.67 |
| Dryer/Heat Exchanger | | 1,331.67 | 3.33 | 106.53 |
| Wax Spinner/Separator | | 4,758.33 | 11.58 | 380.67 |
| Honey Tank & Pipe | | 5,792.58 | 7.92 | 666.15 |
| Feed Tank | | 3,633.17 | 7.75 | 417.81 |
| Storage Vessel | | .00 | .00 | .00 |
| Boiler Furnace | | 1,180.00 | 9.33 | 94.40 |
| Water System | | .00 | .00 | .00 |
| Compressor | | 575.50 | 4.92 | 46.04 |
| Pressure Washer | | 1,199.58 | 8.00 | 95.97 |
| Fuel Tank | | .00 | .00 | .00 |
| Scales | | 1,333.00 | 7.43 | 153.29 |
| Barrels | | 3,409.17 | 2.83 | 392.05 |
| Barrel Loader | | 390.83 | 2.63 | 44.95 |
| Carts | | 934.96 | 7.50 | 107.52 |
| Fencers / Shockers | | 729.75 | 5.92 | 83.92 |
| Shop Tools | | 4,346.67 | 6.75 | 499.87 |
| Staplers | | 831.58 | 5.25 | 95.63 |
| Office Equipment | | .00 | .00 | .00 |
| Lawn Mower | | 2,926.25 | 4.82 | 234.10 |
| Over-Wintering Insulation | | 9,256.92 | 4.17 | 1,064.55 |
| Miscellaneous Equipment | | 42,524.85 | 6.39 | 4,631.24 |
| **Equipment Sub - Total** | | **395,180.31** | | **43,313.66** |
| Trucks | | 79,213.65 | 11.68 | 6,337.09 |
| Tractors | | 2,258.33 | 6.08 | 180.67 |
| Other Mach. | | 12,142.67 | 4.69 | 893.25 |
| **Power Equipment Sub - Total** | | **93,614.65** | | **7,411.01** |
| **TOTAL INVESTMENT** | | **645,863.94** | | **57,995.62** |

# SECTION IV

## HONEY PRODUCTION COSTS AND RETURNS BY REGIONS

The study sample of 12 beekeepers was divided into three groups by regions, i.e., Southern, Central and North East Regions (Group I); North West (Group II); and Peace River (Group III). As the number of beekeepers participating in the study for regions 1 to 3 was small, these were combined into one group to preserve confidentiality of the data. Therefore, the number of beekeepers in Group I was three. Group II, the Northwest Region, had six beekeepers and Group III, the Peace River Region, also had three. Figure 4 shows the distribution of the study sample by region.

**Group I (Southern, Central and North East Regions):**

Results presented in Table 4 are based on the averages for three study participants. Average size of the beekeeping operation was 1,617 hives. Yield per hive for this group was about 156 pounds, about 25 pounds higher than the provincial average. Average honey production for this group was 252,120 pounds of marketable honey. Total value of production including wax/pollen and miscellaneous receipts for this group amounted to $523,515 per average beekeeper or $324 per hive ($2.08 per pound).

Average variable costs for Group I participants were estimated at $168,546 per study participant and $104 per hive or $0.67 per pound of honey produced. Average capital costs for Group I participants amounted to $52,549 per operation, or $32 per hive ($0.21 per pound). Average total production cost for study participants in the Southern, Central and North East regions was estimated at $221,095 per beekeeping operation and $137 per hive or $0.88 per pound of honey produced in 2001.

Details on total value of production, variable costs, capital costs, cash costs and total production cost for Group I participants are given in Table 4. Honey prices during the last two years have been at exceptional level and never seen before in the history of honey production. Gross margin for study participants in Southern, Central and North East regions (Group I) was $361,833 per beekeeping operation with 1,617 hives. It was $224 per hive or $1.44 per pound of honey production in 2002. Average return to unpaid labour (value of production - total

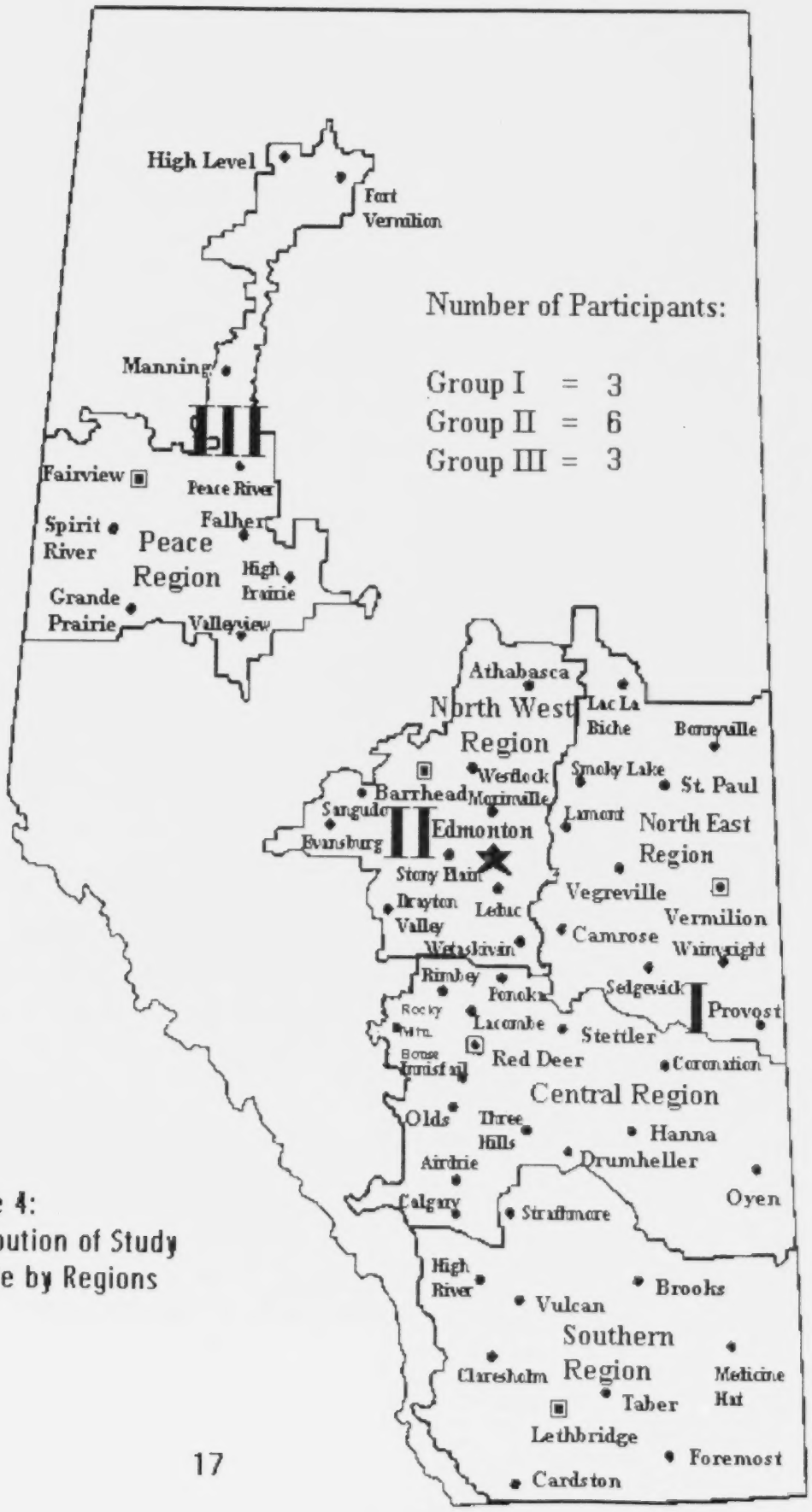



Figure 4:
Distribution of Study Sample by Regions

Table 4 **Honey Production Costs and Returns, Southern, Central and NE Regions, 2002**

| | | | Total $ | $/Hive | $/Lb. |
|---|---|---|---|---|---|
| (A) | | | | | |
| 1. Bulk Honey Sales | 221,286.67 | lbs | 441,248.07 | 272.94 | 1.99 |
| 2. Bulk Honey Inventory | 0.00 | lbs | .00 | .00 | |
| 3. Consumer Pack Sales | 6,166.67 | lbs | 16,500.00 | 10.21 | |
| 4. Consumer Pack Inventory | 4,000.00 | lbs | 8,000.00 | 4.95 | |
| 5. Other Honey Sales | 20,666.67 | lbs | 41,166.67 | 25.46 | |
| 6. Wax/Pollen/Other Sales | 4,475.00 | lbs | 8,800.00 | 5.44 | |
| 7. Crop Insurance Receipts | | | .00 | .00 | |
| 8. Miscellaneous Receipts | | | 5,900.00 | 3.65 | |
| 9. Less: Honey Purchase for Resale | | | 1,900.00 | 1.18 | |
| **VALUE OF PRODUCTION** | | | **523,514.73** | **323.82** | 2.08 |
| (B) | | | | | |
| 1. Bee Purchases - Package Bees | | | 8,322.00 | 5.15 | |
| 2. Bee Purchases - Queens | | | 4,746.33 | 2.94 | |
| 3. Freight & Trucking | | | 784.00 | .48 | |
| 4. Feed - Sugar | | | 13,569.67 | 8.39 | |
| 5. Medicinal Sugar/Bee Repellent | | | 8,445.67 | 5.22 | |
| 6. Product & Crop Insurance | | | 1,200.00 | .74 | |
| 7. Fuel | | | 6,579.67 | 4.07 | |
| 8. Repairs - Machine | | | 8,007.33 | 4.95 | |
| 9. Repairs - Buildings & Improvements | | | 7,944.00 | 4.91 | |
| 10. Utilities & Heating Fuel | | | 8,430.00 | 5.21 | |
| 11. Custom Work & Machine Rental | | | 8,675.67 | 5.37 | |
| 12. Assoc. Dues, Prof'l Fees, Promotion & Travel | | | 4,127.67 | 2.55 | |
| 13. Small Tools, Supplies & Miscellaneous Expenses | | | 10,734.00 | 6.64 | |
| 14. Operating Interest | | | 281.33 | .17 | |
| 15. Paid Labour & Benefits | 4,300.67 | hours | 62,327.83 | 38.55 | |
| 16. Unpaid Labour | 1,368.67 | hours | 14,371.00 | 8.89 | |
| **VARIABLE COSTS** | | | **168,546.17** | **104.26** | .67 |
| (C) | | | | | |
| 1. Land Rent / Lease, Bldg. Rent & Forage Access | | | 1,183.33 | .73 | |
| 2. Taxes, Licences & General Insurance | | | 5,474.00 | 3.39 | |
| 3. Equipment & Building a) Depreciation | | | 45,042.45 | 27.86 | |
| b) Lease Payments | | | .00 | .00 | |
| 4. Paid Capital Interest | | | 849.00 | .53 | |
| **TOTAL CAPITAL COSTS** | | | **52,548.78** | **32.50** | .21 |
| (D) **CASH COSTS** | (B+C-B16-C3a) | | **161,681.50** | **100.01** | .64 |
| (E) **TOTAL PRODUCTION COSTS** | (B+C) | | **221,094.95** | **136.76** | .88 |
| (F) **GROSS MARGIN** | (A-D) | | **378,333.23** | **234.02** | 1.50 |
| **RETURN TO UNPAID LABOUR** | (A-E+B16) | | **333,290.79** | **206.16** | 1.32 |
| **RETURN TO INVESTMENT** | (A-E+C4) | 60.3 % | **319,768.79** | **197.80** | 1.27 |
| **RETURN TO EQUITY** | (A-E) | | **318,919.79** | **197.27** | 1.26 |

**MANAGEMENT**

| | |
|---|---|
| Number of Hives | 1,616.67 |
| Average Yield per Hive (Lbs.) | 155.95 |
| Honey Produced (Lbs.) | 252,120.00 |

production costs and unpaid labour) was $316,791 per operation and $196 per hive ($1.26 per pound). Return to investment for this group was estimated over 57 percent at $303,269 or $188 per hive. Average return to equity was positive at $302,420 per beekeeping operation. In terms of return to equity per hive, it amounted to $187 and per pound of honey produced it was $1.20. Details on gross margin, return to unpaid labour, investment and equity are presented in Table 4, Section F.

Average total investment for land, buildings, bee equipment, and machinery for this group of honey producers is presented in Table 5. Average total investment for honey producers in this group amounted to $530,542 per operation or $328 per hive for the 2002 honey production year.

**Group II (North West Region):**

Information presented in Table 6 is based on the averages of six study participants. On an average, the number of hives for this group was 1,879 with average yield being 180 pounds per hive, the highest among the three groups. Honey production for Group II study participants was almost 49 pounds per hive higher than the provincial average. Amount of honey produced by an average participant in Group II was 338,137 pounds in 2002.

Average total value of production for this group was $746,586 per operation and $397 per hive or $2.21 per pound of honey produced. Variable costs for Group II participants in the North-West Region amounted $195,133 per operation and $104 per hive or $0.58 per pound. When capital costs were added to variable costs, average total production cost was estimated at $292,437 per average beekeeper in this group and $156 per hive or $0.86 per pound of honey produced. Gross margin (total production costs less cash costs) was the highest at $552,818 per beekeeping operation in Group II. It was estimated at $294 per hive or $1.63 per pound for honey produced in 2002. Return to unpaid labour for these study participants was positive at $474,870 on an average or $248 per hive ($1.63 per pound). Similarly, average returns to investment and equity were also positive at $465,850 and $454,149 respectively. In terms of returns per hive, these were estimated at $248 ($1.38 per pound) for return to investment and $242 ($1.34 per pound) for return to equity. Details on honey sales (returns), variable and capital costs and management indicators are presented in Table 6.

Average total investment for land, buildings, bee equipment, and machinery (vehicles) for

Table 5 **Honey Production Enterprise Investment, Southern, Central and NE Regions, 2002**

| INVESTMENT SUMMARY: | | Total $ | $/Hive |
|---|---|---|---|
| Land | 24.13 acres | 23,208.33 | 14.36 |
| Buildings | | 128,416.67 | 79.43 |
| Bee Equipment | | 299,217.50 | 185.08 |
| Machinery | | 79,700.00 | 49.30 |
| **TOTAL INVESTMENT** | | **530,542.50** | **328.17** |

| INVESTMENT DETAIL: | Enterprise Value ($) | Age (Years) | Depreciation ($) |
|---|---|---|---|
| **Land** | **23,208.33** | | |
| Honey House | 100,000.00 | 5.00 | 5,000.00 |
| Wintering Shed | .00 | .00 | .00 |
| Houses(25%) | 12,916.67 | 14.00 | 645.83 |
| Other Bldgs | 15,500.00 | 15.26 | 775.00 |
| **Buildings Sub-Total** | **128,416.67** | | **6,420.83** |
| Hives | 207,766.67 | 10.00 | 23,893.17 |
| Pallets | 4,000.00 | 10.00 | 460.00 |
| Fork Lift | 14,583.33 | 3.00 | 1,166.67 |
| Hive Feeders | 1,566.67 | 3.33 | 180.17 |
| Super Elevator | .00 | .00 | .00 |
| Uncapping Machines | 10,333.33 | 10.00 | 826.67 |
| Honey Extractor | 13,000.00 | 11.67 | 1,040.00 |
| Dryer/Heat Exchanger | 2,000.00 | 6.00 | 160.00 |
| Wax Spinner/Separator | 2,933.33 | 12.67 | 234.67 |
| Honey Tank & Pipe | 5,033.33 | 3.33 | 578.83 |
| Feed Tank | 3,500.00 | 5.00 | 402.50 |
| Storage Vessel | .00 | .00 | .00 |
| Boiler Furnace | 40.00 | 1.67 | 3.20 |
| Water System | .00 | .00 | .00 |
| Compressor | 475.00 | 3.00 | 38.00 |
| Pressure Washer | 941.67 | 6.67 | 75.33 |
| Fuel Tank | .00 | .00 | .00 |
| Scales | 1,416.67 | 3.67 | 162.92 |
| Barrels | 2,966.67 | 5.33 | 341.17 |
| Barrel Loader | 400.00 | 7.67 | 46.00 |
| Carts | 942.50 | 2.00 | 108.39 |
| Fencers / Shockers | .00 | .00 | .00 |
| Shop Tools | 1,466.67 | 6.67 | 168.67 |
| Staplers | 485.00 | 3.33 | 55.77 |
| Office Equipment | .00 | .00 | .00 |
| Lawn Mower | 866.67 | 4.00 | 69.33 |
| Over-Wintering Insulation | 7,833.33 | .00 | 900.83 |
| Miscellaneous Equipment | 16,666.67 | 2.67 | 1,333.33 |
| **Equipment Sub - Total** | **299,217.50** | | **32,245.61** |
| Trucks | 60,483.33 | 6.49 | 4,838.67 |
| Tractors | .00 | .00 | .00 |
| Other Mach. | 19,216.67 | 2.28 | 1,537.33 |
| **Power Equipment Sub - Total** | **79,700.00** | | **6,376.00** |
| **TOTAL INVESTMENT** | **530,542.50** | | **45,042.45** |

**Table 6** **Honey Production Costs and Returns, North West Region, 2002**

| | | | Total $ | $/Hive | $/Lb |
|---|---|---|---|---|---|
| (A) | | | | | |
| 1. Bulk Honey Sales | 304,119.38 | lbs | 652,523.50 | 347.21 | 2.15 |
| 2. Bulk Honey Inventory | 0.00 | lbs | .00 | .00 | |
| 3. Consumer Pack Sales | 718.33 | lbs | 1,337.92 | .71 | |
| 4. Consumer Pack Inventory | 33,298.83 | lbs | 57,234.63 | 30.45 | |
| 5. Other Honey Sales | 0.00 | lbs | .00 | .00 | |
| 6. Wax/Pollen/Other Sales | 3,765.88 | lbs | 10,526.08 | 5.60 | |
| 7. Crop Insurance Receipts | | | 8,459.17 | 4.50 | |
| 8. Miscellaneous Receipts | | | 15,174.72 | 8.07 | |
| 9. Less: Honey Purchase for Resale | | | 1,329.93 | .71 | |
| **VALUE OF PRODUCTION** | | | **746,585.94** | **397.26** | **2.21** |
| (B) | | | | | |
| 1. Bee Purchases - Package Bees | | | 8,333.33 | 4.43 | |
| 2. Bee Purchases - Queens | | | 12,117.79 | 6.45 | |
| 3. Freight & Trucking | | | 3,530.46 | 1.88 | |
| 4. Feed - Sugar | | | 27,490.95 | 14.63 | |
| 5. Medicinal Sugar/Bee Repellent | | | 12,243.55 | 6.51 | |
| 6. Product & Crop Insurance | | | 214.58 | .11 | |
| 7. Fuel | | | 6,254.44 | 3.33 | |
| 8. Repairs - Machine | | | 9,348.16 | 4.97 | |
| 9. Repairs - Buildings & Improvements | | | 4,368.84 | 2.32 | |
| 10. Utilities & Heating Fuel | | | 8,060.62 | 4.29 | |
| 11. Custom Work & Machine Rental | | | 728.91 | .39 | |
| 12. Assoc. Dues, Prof'l Fees, Promotion & Travel | | | 6,251.02 | 3.33 | |
| 13. Small Tools, Supplies & Miscellaneous Expenses | | | 8,071.47 | 4.29 | |
| 14. Operating Interest | | | 2,412.25 | 1.28 | |
| 15. Paid Labour & Benefits | 5,235.14 | hours | 64,984.57 | 34.58 | |
| 16. Unpaid Labour | 1,973.50 | hours | 20,721.75 | 11.03 | |
| **VARIABLE COSTS** | | | **195,132.70** | **103.83** | **.58** |
| (C) | | | | | |
| 1. Land Rent / Lease, Bldg. Rent & Forage Access | | | 2,259.50 | 1.20 | |
| 2. Taxes, Licences & General Insurance | | | 5,395.83 | 2.87 | |
| 3. Equipment & Building a) Depreciation | | | 77,947.64 | 41.48 | |
| b) Lease Payments | | | .00 | .00 | |
| 4. Paid Capital Interest | | | 11,701.59 | 6.23 | |
| **TOTAL CAPITAL COSTS** | | | **97,304.56** | **51.78** | **.29** |
| **(D) CASH COSTS** (B+C-B16-C3a) | | | **193,767.87** | **103.10** | **.57** |
| **(E) TOTAL PRODUCTION COSTS** (B+C) | | | **292,437.26** | **155.61** | **.86** |
| **(F) GROSS MARGIN** (A-D) | | | **583,318.07** | **310.39** | **1.73** |
| **RETURN TO UNPAID LABOUR** (A-E+B16) | | | **505,370.44** | **268.91** | **1.49** |
| **RETURN TO INVESTMENT** (A-E+C4) | | 58.6 % | **496,350.28** | **264.11** | **1.47** |
| **RETURN TO EQUITY** (A-E) | | | **484,648.69** | **257.88** | **1.43** |

**MANAGEMENT**

| | |
|---|---|
| Number of Hives | 1,879.33 |
| Average Yield per Hive (Lbs.) | 179.92 |
| Honey Produced (Lbs.) | 338,136.55 |

Group II study participants (North-West Region) amounted to $847,031 per operation or $451 per hive. Details on investment and investment costs for this group are presented in Table 7.

**Group III (Peace River Region):**

Only three honey producers provided detailed information on their operations from the Peace River Region. Group averages for these study participants resulted in 565 hives per operation. Average yield for producers in the Peace Region was 156 pounds per hive, lowest among the three groups. Average total value of honey for Group III participants amounted to $184,079 per beekeeping operation or $326 per hive ($2.09 per pound). When income from honey by-products and miscellaneous receipts were combined with the value of honey, average total value of production was estimated at $192,933 per operation or $341 per hive ($2.19 per pound).

Average variable costs for the three honey producers in the Peace Region amounted to $177 per hive ($1.14 per pound). Variable costs for this group were the highest among the three groups. Total production cost (cash costs, operator and family labour and capital costs) was almost $246 per hive or $1.58 per pound of honey produced in 2002. Honey operations in the Peace Region reported marginally higher labour costs (paid and un-paid labour) than the North West Region but very close to Southern, Central and North East Region. Machinery repairs and miscellaneous costs reported in the Peace Region were also significantly higher compared to other two groups (regions).

Average gross margin (total value of production less cash costs (D)) for the three beekeepers in the Peace River Region was $96,071 per beekeeper. It was significantly lower compared to the two other Groups I and II because of higher costs. Gross margin per hive was $170 and $1.09 per pound. Return to unpaid labour was calculated at $64,576 per average beekeeping operation and $114 per hive ($0.73 per pound of honey produced). Average return to investment for this group of honey producers was considerably low compared to other two groups. It was just over 15 percent or $97 per hive for honey production in 2002. Return to equity in the Peace Region was positive at $53,761 per average beekeeping operation. In terms of return to equity per hive, it was $95 and $0.61 per pound of honey produced. Details on gross margin and returns to unpaid labour, investment and equity are given in Table 8 (F).

Table 7 **Honey Production Enterprise Investment, North West Region, 2002**

| **INVESTMENT SUMMARY:** | | **Total $** | | **$/Hive** |
|---|---|---|---|---|
| Land | 8.26 acres | 8,120.50 | | 4.32 |
| Buildings | | 179,723.62 | | 95.63 |
| Bee Equipment | | 530,977.70 | | 282.54 |
| Machinery | | 128,208.97 | | 68.22 |
| **TOTAL INVESTMENT** | | **847,030.80** | | **450.71** |
| **INVESTMENT DETAIL:** | | Enterprise Value ($) | Age (Years) | Depreciation ($) |
| **Land** | | **8,120.50** | | |
| Honey House | | 78,826.67 | 8.83 | 3,941.33 |
| Wintering Shed | | .00 | .00 | .00 |
| Houses(25%) | | 3,161.71 | 13.33 | 158.09 |
| Other Bldgs | | 97,735.25 | 9.40 | 4,886.76 |
| **Buildings Sub-Total** | | **179,723.62** | | **8,986.18** |
| Hives | | 336,918.67 | 4.17 | 38,745.65 |
| Pallets | | 18,408.33 | 1.83 | 2,116.96 |
| Fork Lift | | 27,583.33 | 14.20 | 2,206.67 |
| Hive Feeders | | 3,990.00 | 8.00 | 458.85 |
| Super Elevator | | .00 | .00 | .00 |
| Uncapping Machines | | 6,683.33 | 5.00 | 534.67 |
| Honey Extractor | | 13,766.67 | 8.17 | 1,101.33 |
| Dryer/Heat Exchanger | | 1,246.67 | 3.50 | 99.73 |
| Wax Spinner/Separator | | 6,383.33 | 7.66 | 510.67 |
| Honey Tank & Pipe | | 5,733.33 | 7.17 | 659.33 |
| Feed Tank | | 3,684.50 | 5.17 | 423.72 |
| Storage Vessel | | .00 | .00 | .00 |
| Boiler Furnace | | 1,840.00 | 9.83 | 147.20 |
| Water System | | .00 | .00 | .00 |
| Compressor | | 673.67 | 4.67 | 53.89 |
| Pressure Washer | | 1,570.00 | 7.67 | 125.60 |
| Fuel Tank | | .00 | .00 | .00 |
| Scales | | 1,439.17 | 8.67 | 165.50 |
| Barrels | | 4,321.33 | 1.83 | 496.95 |
| Barrel Loader | | .00 | .00 | .00 |
| Carts | | 820.33 | 5.33 | 94.34 |
| Fencers / Shockers | | 1,065.00 | 3.33 | 122.48 |
| Shop Tools | | 3,793.33 | 1.67 | 436.23 |
| Staplers | | 1,015.83 | 4.67 | 116.82 |
| Office Equipment | | .00 | .00 | .00 |
| Lawn Mower | | 3,361.67 | 2.00 | 268.93 |
| Over-Wintering Insulation | | 13,036.33 | 4.00 | 1,499.18 |
| Miscellaneous Equipment | | 73,642.87 | 5.66 | 8,293.93 |
| **Equipment Sub - Total** | | **530,977.70** | | **58,678.63** |
| Trucks | | 118,700.64 | 10.74 | 9,496.05 |
| Tractors | | 1,916 67 | 2.50 | 153.33 |
| Other Mach. | | 7,591.67 | 3.84 | 547.67 |
| **Power Equipment Sub - Total** | | **128,208.97** | | **10,197.05** |
| **TOTAL INVESTMENT** | | **847,030.80** | | **77,861.86** |

**Table 8** **Honey Production Costs and Returns, Peace River Region, 2002**

| | | | Total $ | $/Hive | $/Lb. |
|---|---|---|---|---|---|
| (A) | | | | | |
| 1. Bulk Honey Sales | 80,067.33 | lbs | 164,955.84 | 291.79 | 2.06 |
| 2. Bulk Honey Inventory | 833.33 | lbs | 1,666.67 | 2.95 | |
| 3. Consumer Pack Sales | 1,969.00 | lbs | 4,946.00 | 8.75 | |
| 4. Consumer Pack Inventory | 833.33 | lbs | 1,666.67 | 2.95 | |
| 5. Other Honey Sales | 4,417.67 | lbs | 10,844.17 | 19.18 | |
| 6. Wax/Pollen/Other Sales | 464.67 | lbs | 1,227.33 | 2.17 | |
| 7. Crop Insurance Receipts | | | 6,091.78 | 10.78 | |
| 8. Miscellaneous Receipts | | | 1,534.58 | 2.71 | |
| 9. Less: Honey Purchase for Resale | | | .00 | .00 | |
| **VALUE OF PRODUCTION** | | | **192,933.03** | **341.27** | **2.19** |
| (B) | | | | | |
| 1. Bee Purchases - Package Bees | | | .00 | .00 | |
| 2. Bee Purchases - Queens | | | 5,080.50 | 8.99 | |
| 3. Freight & Trucking | | | 1,120.35 | 1.98 | |
| 4. Feed - Sugar | | | 10,393.33 | 18.38 | |
| 5. Medicinal Sugar/Bee Repellent | | | 3,344.17 | 5.92 | |
| 6. Product & Crop Insurance | | | 300.00 | .53 | |
| 7. Fuel | | | 5,806.20 | 10.27 | |
| 8. Repairs - Machine | | | 11,526.92 | 20.39 | |
| 9. Repairs - Buildings & Improvements | | | 8,971.00 | 15.87 | |
| 10. Utilities & Heating Fuel | | | 5,331.07 | 9.43 | |
| 11. Custom Work & Machine Rental | | | 1,333.33 | 2.36 | |
| 12. Assoc. Dues, Prof'l Fees, Promotion & Travel | | | 6,369.59 | 11.27 | |
| 13. Small Tools, Supplies & Miscellaneous Expenses | | | 11,938.03 | 21.12 | |
| 14. Operating Interest | | | 1,790.33 | 3.17 | |
| 15. Paid Labour & Benefits | 1,494.47 | hours | 16,044.67 | 28.38 | |
| 16. Unpaid Labour | 1,030.00 | hours | 10,815.00 | 19.13 | |
| **VARIABLE COSTS** | | | **100,164.49** | **177.18** | **1.14** |
| (C) | | | | | |
| 1. Land Rent / Lease, Bldg. Rent & Forage Access | | | 400.00 | .71 | |
| 2. Taxes, Licences & General Insurance | | | 5,764.23 | 10.20 | |
| 3. Equipment & Building a) Depreciation | | | 31,494.24 | 55.71 | |
| b) Lease Payments | | | .00 | .00 | |
| 4. Paid Capital Interest | | | 1,348.67 | 2.39 | |
| **TOTAL CAPITAL COSTS** | | | **39,007.14** | **69.00** | **.44** |
| (D) **CASH COSTS** (B+C-B16-C3a) | | | **96,862.39** | **171.34** | **1.10** |
| (E) **TOTAL PRODUCTION COSTS** (B+C) | | | **139,171.62** | **246.18** | **1.58** |
| (F) **GROSS MARGIN** (A-D) | | | **96,070.65** | **169.94** | **1.09** |
| **RETURN TO UNPAID LABOUR** (A-E+B16) | | | **64,576.41** | **114.23** | **.73** |
| **RETURN TO INVESTMENT** (A-E+C4) | | 15.4 % | **55,110.08** | **97.48** | **.63** |
| **RETURN TO EQUITY** (A-E) | | | **53,761.41** | **95.10** | **.61** |

**MANAGEMENT**

| | |
|---|---|
| Number of Hives | 565.33 |
| Average Yield per Hive (Lbs.) | 155.87 |
| Honey Produced (Lbs.) | 88,120.67 |

Investment for land, buildings, bee equipment, machinery and vehicles for the three study participants in the Peace River Region amounted to $358,852 per beekeeping operation in 2002. Investment per hive for an average beekeeping operation in this region (Group III) was significantly higher at $634 compared to other two groups. Details on land, buildings, bee equipment and machinery investments for the beekeepers in the Peace River Region are presented in Table 9.

**Table 9** **Honey Production Enterprise Investment, Peace River Region, 2002**

| INVESTMENT SUMMARY: | | Total $ | $/Hive |
|---|---|---|---|
| Land | 10.00 acres | 7,150.00 | 12.65 |
| Buildings | | 93,812.67 | 165.94 |
| Bee Equipment | | 219,548.33 | 388.35 |
| Machinery | | 38,340.67 | 67.82 |
| **TOTAL INVESTMENT** | | **358,851.67** | **634.76** |

| INVESTMENT DETAIL: | Enterprise Value ($) | Age (Years) | Depreciation ($) |
|---|---|---|---|
| **Land** | **7,150.00** | | |
| Honey House | 49,321.33 | 25.67 | 2,466.07 |
| Wintering Shed | 7,840.00 | 2.00 | 392.00 |
| Houses(25%) | 6,250.00 | 23.00 | 312.50 |
| Other Bldgs | 30,401.33 | 11.96 | 1,520.07 |
| **Buildings Sub-Total** | **93,812.67** | | **4,690.63** |
| Hives | 134,275.00 | 31.00 | 15,441.63 |
| Pallets | 4,260.00 | 15.33 | 489.90 |
| Fork Lift | 20,833.33 | 8.52 | 1,666.67 |
| Hive Feeders | 3,433.00 | 16.00 | 394.80 |
| Super Elevator | .00 | .00 | .00 |
| Uncapping Machines | 2,750.00 | 15.00 | 220.00 |
| Honey Extractor | 8,600.00 | 11.00 | 688.00 |
| Dryer/Heat Exchanger | 833.33 | .33 | 66.67 |
| Wax Spinner/Separator | 3,333.33 | 18.33 | 266.67 |
| Honey Tank & Pipe | 6,670.33 | 14.00 | 767.09 |
| Feed Tank | 3,663.67 | 15.67 | 421.32 |
| Storage Vessel | .00 | .00 | .00 |
| Boiler Furnace | 1,000.00 | 16.00 | 80.00 |
| Water System | .00 | .00 | .00 |
| Compressor | 479.67 | 7.33 | 38.37 |
| Pressure Washer | 716.67 | 10.00 | 57.33 |
| Fuel Tank | .00 | .00 | .00 |
| Scales | 1,037.00 | 8.73 | 119.26 |
| Barrels | 2,027.33 | 2.33 | 233.14 |
| Barrel Loader | 1,163.33 | 2.84 | 133.78 |
| Carts | 1,156.67 | 17.33 | 133.02 |
| Fencers / Shockers | 789.00 | 17.00 | 90.74 |
| Shop Tools | 8,333.33 | 17.00 | 958.33 |
| Staplers | 809.67 | 8.33 | 93.11 |
| Office Equipment | .00 | .00 | .00 |
| Lawn Mower | 4,115.00 | 11.28 | 329.20 |
| Over-Wintering Insulation | 3,121.67 | 8.67 | 358.99 |
| Miscellaneous Equipment | 6,147.00 | 11.58 | 603.76 |
| **Equipment Sub - Total** | **219,548.33** | | **23,651.77** |
| Trucks | 18,970.00 | 18.75 | 1,517.60 |
| Tractors | 5,200.00 | 19.33 | 416.00 |
| Other Mach. | 14,170.67 | 8.81 | 940.32 |
| **Power Equipment Sub - Total** | **38,340.67** | | **2,873.92** |
| **TOTAL INVESTMENT** | **358,851.67** | | **31,216.32** |

# SECTION V

## HONEY PRODUCTION COSTS AND RETURNS BY SIZE OF OPERATION

The study sample of 12 beekeepers was further divided into two groups by size of operation. The main objective of analyzing data by size of operation was to study the economies of scale, i.e., whether the size of operation had any effect on net returns and overall production costs. Following are the two groups by size of operation.

| GROUP | SIZE OF OPERATION | NUMBER OF PARTICIPANTS | AVERAGE NUMBER OF HIVES PER BEEKEEPER |
|---|---|---|---|
| IV | Up to 1,000 Hives | 6 | 598 |
| V | Over 1,000 Hives | 6 | 2,372 |
| | **TOTAL** | **13** | **1,485** |

**Group IV (Up to 1,000 Hives):**

Table 10 presents the results for six study participants in Group IV, i.e., up to 1,000 hives. The number of hives per average study participant for this group was 598. Number of hives owned by this group of participants ranged from 300 to 884 hives. In 2002, average honey production per hive for this group was 189 pounds, about 23 pounds per hive more than the study sample. The value of honey (bulk honey sales, bulk honey inventory, consumer pack sales, consumer pack inventory, wax/pollen sales and other honey sales) amounted to $211,398 per operation ($354 per hive) or $1.87 per pound of honey produced.

***Variable Costs:***

Average variable costs for this group of honey producers: i.e., up to 1,000 hives, are presented in Table 10. These costs amounted to $169 per hive or $0.89 per pound of honey produced in 2002.

Average operator, family labour and un-paid labour costs for this Group (IV) were about $56 per hive or $0.30 per pound of honey produced. The most significant costs for this group of beekeepers were paid labour and benefits at $32 per hive, followed by un-paid labour, feed-sugar, fuel, bee purchases, supplies and miscellaneous expenses.

Table 10 **Honey Production Costs and Returns, By size of operation (up to 1000 Hives), 2002**

| | | | Total $ | $/Hive | $/Lb. |
|---|---|---|---|---|---|
| (A) | | | | | |
| 1. Bulk Honey Sales | 83,226.67 | lbs | 149,301.42 | 249.67 | 1.79 |
| 2. Bulk Honey Inventory | 416.67 | lbs | 833.33 | 1.39 | |
| 3. Consumer Pack Sales | 3,686.17 | lbs | 10,150.50 | 16.97 | |
| 4. Consumer Pack Inventory | 13,560.50 | lbs | 17,757.97 | 29.70 | |
| 5. Other Honey Sales | 12,375.50 | lbs | 25,755.42 | 43.07 | |
| 6. Wax/Pollen/Other Sales | 513.17 | lbs | 2,008.00 | 3.36 | |
| 7. Crop Insurance Receipts | | | 3,045.89 | 5.09 | |
| 8. Miscellaneous Receipts | | | 1,595.29 | 2.67 | |
| 9. Less: Honey Purchase for Resale | | | 950.00 | 1.59 | |
| **VALUE OF PRODUCTION** | | | **211,397.82** | **353.51** | **1.87** |
| (B) | | | | | |
| 1. Bee Purchases - Package Bees | | | 4,161.00 | 6.96 | |
| 2. Bee Purchases - Queens | | | 4,506.04 | 7.54 | |
| 3. Freight & Trucking | | | 756.67 | 1.27 | |
| 4. Feed - Sugar | | | 10,821.67 | 18.10 | |
| 5. Medicinal Sugar/Bee Repellent | | | 3,394.92 | 5.68 | |
| 6. Product & Crop Insurance | | | 381.25 | .64 | |
| 7. Fuel | | | 5,877.62 | 9.83 | |
| 8. Repairs - Machine | | | 8,422.08 | 14.08 | |
| 9. Repairs - Buildings & Improvements | | | 5,076.80 | 8.49 | |
| 10. Utilities & Heating Fuel | | | 5,526.59 | 9.24 | |
| 11. Custom Work & Machine Rental | | | 771.17 | 1.29 | |
| 12. Assoc. Dues, Prof'l Fees, Promotion & Travel | | | 4,247.07 | 7.10 | |
| 13. Small Tools, Supplies & Miscellaneous Expenses | | | 11,856.09 | 19.83 | |
| 14. Operating Interest | | | 1,595.27 | 2.67 | |
| 15. Paid Labour & Benefits | 1,517.07 | hours | 18,868.33 | 31.55 | |
| 16. Unpaid Labour | 1,414.17 | hours | 14,848.75 | 24.83 | |
| **VARIABLE COSTS** | | | **101,111.31** | **169.08** | **.89** |
| (C) | | | | | |
| 1. Land Rent / Lease, Bldg. Rent & Forage Access | | | 2,195.83 | 3.67 | |
| 2. Taxes, Licences & General Insurance | | | 4,658.66 | 7.79 | |
| 3. Equipment & Building a) Depreciation | | | 29,583.07 | 49.47 | |
| b) Lease Payments | | | .00 | .00 | |
| 4. Paid Capital Interest | | | 958.33 | 1.60 | |
| **TOTAL CAPITAL COSTS** | | | **37,395.90** | **62.53** | **.33** |
| (D) **CASH COSTS** (B+C-B16-C3a) | | | **94,075.38** | **157.32** | **.83** |
| (E) **TOTAL PRODUCTION COSTS** (B+C) | | | **138,507.20** | **231.62** | **1.22** |
| (F) **GROSS MARGIN** (A-D) | | | **117,322.43** | **196.19** | **1.04** |
| **RETURN TO UNPAID LABOUR** (A-E+B16) | | | **87,739.36** | **146.72** | **.77** |
| **RETURN TO INVESTMENT** (A-E+C4) | | 22.4 % | **73,848.95** | **123.49** | **.65** |
| **RETURN TO EQUITY** (A-E) | | | **72,890.61** | **121.89** | **.64** |

**MANAGEMENT**

| | |
|---|---|
| Number of Hives | 598.00 |
| Average Yield per Hive (Lbs.) | 189.41 |
| Honey Produced (Lbs.) | 113,265.50 |

***Capital Costs:***

Average land rent/lease, depreciation for buildings, bee equipment and vehicles, and capital interest paid by the six apiarists in Group IV amounted to $37,396 ($63 per hive) or $0.33 per pound of honey produced. Breakdown of capital costs is also shown in Table 10.

***Total Production Costs:***

Average total production costs per study participant in up to 1,000 hives group was estimated at $138,507 for honey operation with 598 hives. Production costs per hive and per pound of honey produced was $232 and $1.22 respectively.

***Management Indicators:***

Average gross margin (return to value of production over cash costs) for Group IV participants (up to 1,000 hives) was estimated at $117,322 per beekeeping operation in this size category. It was $196 per hive or $1.04 per pound of honey produced. Average return to unpaid labour was positive at $147 per hive or $0.77 per pound of honey produced. Return to investment and equity were also positive at $123 and $122 per hive, respectively. Average return to investment was calculated at over 22 percent for honey production in 2002. Details on cash, operator and family labour, capital costs, and management indicators are given in Table 10.

***Investment Costs:***

Average total investment for honey producers in the up to 1,000 hives group was $329,089 per operation or $550 per hive. Bee equipment investment was estimated at $347 per hive, followed by buildings at $126, and machinery, including vehicles, at $66 per hive. Table 11 presents details on land, buildings, bee equipment, machinery and vehicles investment for Group IV in 2002.

**Group V (Over to 1,000 Hives):**

Average number of hives for this group (6 beekeepers) was 2,372 hives, with an average production of 166 pounds per hive. The number of hives owned by this group of participants ranged from 1,050 to 4,500. Section A in Table 12 presents total value of production (bulk honey sales, consumer pack sales, honey held in inventory, wax/pollen sales and miscellaneous receipts, and other honey sales). It was estimated at $893,412 per beekeeping operation or $377 per hive ($2.26 per pound).

Table 11 **Honey Production Enterprise Investment, By size of operation (up to 1000 Hives), 2002**

| **INVESTMENT SUMMARY:** | | **Total $** | | **$/Hive** |
|---|---|---|---|---|
| Land | 7.42 acres | 7,112.50 | | 11.89 |
| Buildings | | 75,327.17 | | 125.97 |
| Bee Equipment | | 207,462.50 | | 346.93 |
| Machinery | | 39,187.00 | | 65.53 |
| **TOTAL INVESTMENT** | | **329,089.17** | | **550.32** |
| **INVESTMENT DETAIL:** | | Enterprise Value ($) | Age (Years) | Depreciation ($) |
| **Land** | | **7,112.50** | | |
| Honey House | | 46,327.33 | 16.67 | 2,316.37 |
| Wintering Shed | | 3,920.00 | 1.00 | 196.00 |
| Houses(25%) | | 6,645.83 | 24.83 | 332.29 |
| Other Bldgs | | 18,434.00 | 9.94 | 921.70 |
| **Buildings Sub-Total** | | **75,327.17** | | **3,766.36** |
| Hives | | 137,137.50 | 19.67 | 15,770.81 |
| Pallets | | 3,388.33 | 9.00 | 389.66 |
| Fork Lift | | 12,583.33 | 12.26 | 1,006.67 |
| Hive Feeders | | 2,733.17 | 12.17 | 314.31 |
| Super Elevator | | .00 | .00 | .00 |
| Uncapping Machines | | 4,541.67 | 11.33 | 363.33 |
| Honey Extractor | | 6,300.00 | 13.83 | 504.00 |
| Dryer/Heat Exchanger | | 416.67 | .17 | 33.33 |
| Wax Spinner/Separator | | 3,383.33 | 18.00 | 270.67 |
| Honey Tank & Pipe | | 5,518.50 | 10.67 | 634.63 |
| Feed Tank | | 3,515.17 | 10.33 | 404.24 |
| Storage Vessel | | .00 | .00 | .00 |
| Boiler Furnace | | 583.33 | 13.83 | 46.67 |
| Water System | | .00 | .00 | .00 |
| Compressor | | 439.83 | 7.33 | 35.19 |
| Pressure Washer | | 1,041.67 | 6.67 | 83.33 |
| Fuel Tank | | .00 | .00 | .00 |
| Scales | | 1,118.50 | 10.20 | 128.63 |
| Barrels | | 2,680.33 | 2.83 | 308.24 |
| Barrel Loader | | 781.67 | 5.25 | 89.89 |
| Carts | | 828.33 | 12.83 | 95.26 |
| Fencers / Shockers | | 1,099.50 | 9.17 | 126.44 |
| Shop Tools | | 6,000.00 | 8.50 | 690.00 |
| Staplers | | 579.83 | 7.17 | 66.68 |
| Office Equipment | | .00 | .00 | .00 |
| Lawn Mower | | 4,724.17 | 6.81 | 377.93 |
| Over-Wintering Insulation | | 4,994.17 | 6.00 | 574.33 |
| Miscellaneous Equipment | | 3,073.50 | 5.79 | 301.88 |
| **Equipment Sub - Total** | | **207,462.50** | | **22,616.13** |
| Trucks | | 27,351.67 | 19.15 | 2,188.13 |
| Tractors | | 3,016.67 | 9.67 | 241.33 |
| Other Mach. | | 8,818.67 | 7.38 | 555.49 |
| **Power Equipment Sub - Total** | | **39,187.00** | | **2,984.96** |
| **TOTAL INVESTMENT** | | **329,089.17** | | **29,367.44** |

***Variable Costs:***

Average variable costs for Group V (Over 1,000 hives) of beekeepers were estimated at $228,377 per beekeeping operation or $96 per hive ($0.58 per pound) during the 2002 honey production year.

Average paid labour and benefits were $36 per hive, the largest expense item in variable costs. Cash costs (D) for this group amounted to $228,964 per operation or $97 per hive or $0.58 per pound of honey produced (Table 12).

***Capital Costs:***

Capital costs for Group V honey producers (Over 1,000 hives) were estimated at $105,687 per operation or $45 per hive ($0.27 per pound of honey produced). Capital costs for this group of beekeepers were more than double the costs of beekeepers in the up to 1,000 hives group.

***Total Production Costs:***

Average total production costs (variable costs including operator and family, and capital costs) for honey producers in this size group, were $334,063 per average beekeeping operation. In terms of per hive and per pound of honey produced, average production cost for this group was $141 and $0.85, respectively.

***Management Indicators:***

Gross margin (value of production - cash costs) for Group V participants (Over to 1,000 hives) was estimated at $664,448 per average beekeeping operation in 2002. It was $280 per hive or $1.68 per pound of honey produced. Return to unpaid labour and investment were significantly higher for this group of beekeepers when compared with other groups (by region and size). Return to investment for this group was calculated at over 59 percent in 2002.

The return to equity was also positive at $236 per hive ($1.42 per pound of honey produced). Details on total value production, costs and returns are given in Table 12.

***Investment Costs:***

Average total investment for the study participants in Group V (Over to 1,000 hives) was $962,639 per operation or $406 per hive. Land area associated with the honey operation for this group was about 18 acres, valued at $16,187 or $900 per acre ($7 per hive). Market value for buildings was estimated at $215,511 per average honey operation or $91 per hive in Group V (Table 13). Bee equipment investment for this group was estimated at $582,898 per operation or

**Table 12** **Honey Production Costs and Returns, By size of operation (over 1000 Hives), 2002**

| | | | Total $ | $/Hive | $/Lb. |
|---|---|---|---|---|---|
| (A) | | | | | |
| 1. Bulk Honey Sales | 371,569.72 lbs | | 806,324.03 | 339.89 | 2.17 |
| 2. Bulk Honey Inventory | 0.00 lbs | | .00 | .00 | |
| 3. Consumer Pack Sales | 1,100.00 lbs | | 1,910.42 | .81 | |
| 4. Consumer Pack Inventory | 22,155.00 lbs | | 44,310.00 | 18.68 | |
| 5. Other Honey Sales | 166.67 lbs | | 250.00 | .11 | |
| 6. Wax/Pollen/Other Sales | 5,722.54 lbs | | 13,531.75 | 5.70 | |
| 7. Crop Insurance Receipts | | | 8,459.17 | 3.57 | |
| 8. Miscellaneous Receipts | | | 17,296.72 | 7.29 | |
| 9. Less: Honey Purchase for Resale | | | 1,329.93 | .56 | |
| **VALUE OF PRODUCTION** | | | **893,412.01** | **376.60** | **2.26** |
| (B) | | | | | |
| 1. Bee Purchases - Package Bees | | | 8,333.33 | 3.51 | |
| 2. Bee Purchases - Queens | | | 12,525.17 | 5.28 | |
| 3. Freight & Trucking | | | 3,725.96 | 1.57 | |
| 4. Feed - Sugar | | | 28,650.78 | 12.08 | |
| 5. Medicinal Sugar/Bee Repellent | | | 14,743.55 | 6.21 | |
| 6. Product & Crop Insurance | | | 583.33 | .25 | |
| 7. Fuel | | | 6,569.76 | 2.77 | |
| 8. Repairs - Machine | | | 10,693.21 | 4.51 | |
| 9. Repairs - Buildings & Improvements | | | 7,749.54 | 3.27 | |
| 10. Utilities & Heating Fuel | | | 9,414.57 | 3.97 | |
| 11. Custom Work & Machine Rental | | | 4,962.24 | 2.09 | |
| 12. Assoc. Dues, Prof'l Fees, Promotion & Travel | | | 7,252.58 | 3.06 | |
| 13. Small Tools, Supplies & Miscellaneous Expenses | | | 7,551.39 | 3.18 | |
| 14. Operating Interest | | | 1,852.82 | .78 | |
| 15. Paid Labour & Benefits | 6,615.64 hours | | 85,302.49 | 35.96 | |
| 16. Unpaid Labour | 1,758.67 hours | | 18,466.00 | 7.78 | |
| **VARIABLE COSTS** | | | **228,376.72** | **96.27** | **.58** |
| (C) | | | | | |
| 1. Land Rent / Lease, Bldg. Rent & Forage Access | | | 855.33 | .36 | |
| 2. Taxes, Licences & General Insurance | | | 6,356.29 | 2.68 | |
| 3. Equipment & Building a) Depreciation | | | 86,632.91 | 36.52 | |
| b) Lease Payments | | | .00 | .00 | |
| 4. Paid Capital Interest | | | 11,842.09 | 4.99 | |
| **TOTAL CAPITAL COSTS** | | | **105,686.62** | **44.55** | **.27** |
| (D) **CASH COSTS** | (B+C-B16-C3a) | | **228,964.43** | **96.51** | **.58** |
| (E) **TOTAL PRODUCTION COSTS** | (B+C) | | **334,063.34** | **140.82** | **.85** |
| (F) **GROSS MARGIN** | (A-D) | | **703,197.58** | **296.42** | **1.78** |
| **RETURN TO UNPAID LABOUR** | (A-E+B16) | | **616,564.67** | **259.90** | **1.56** |
| **RETURN TO INVESTMENT** | (A-E+C4) | 63.4 % | **609,940.76** | **257.11** | **1.54** |
| **RETURN TO EQUITY** | (A-E) | | **598,098.67** | **252.11** | **1.51** |

**MANAGEMENT**

| | |
|---|---|
| Number of Hives | 2,372.33 |
| Average Yield per Hive (Lbs.) | 166.50 |
| Honey Produced (Lbs.) | 394,991.38 |

**Table 13** **Honey Production Enterprise Investment, By size of operation (over 1000 Hives), 2002**

| INVESTMENT SUMMARY: | | Total $ | $/Hive |
|---|---|---|---|
| Land | 17.91 acres | 16,187.17 | 6.82 |
| Buildings | | 215,511.12 | 90.84 |
| Bee Equipment | | 582,898.12 | 245.71 |
| Machinery | | 148,042.30 | 62.40 |
| **TOTAL INVESTMENT** | | **962,638.71** | **405.78** |

| INVESTMENT DETAIL: | Enterprise Value ($) | Age (Years) | Depreciation ($) |
|---|---|---|---|
| **Land** | **16,187.17** | | |
| Honey House | 107,160.00 | 7.50 | 5,358.00 |
| Wintering Shed | .00 | .00 | .00 |
| Houses(25%) | 6,099.21 | 7.00 | 304.96 |
| Other Bldgs | 102,251.91 | 13.07 | 5,112.60 |
| **Buildings Sub-Total** | **215,511.12** | | **10,775.56** |
| Hives | 370,802.00 | 5.00 | 42,642.23 |
| Pallets | 19,150.00 | 5.50 | 2,202.25 |
| Fork Lift | 32,708.33 | 7.70 | 2,616.67 |
| Hive Feeders | 3,756.67 | 5.50 | 432.02 |
| Super Elevator | .00 | .00 | .00 |
| Uncapping Machines | 8,683.33 | 6.17 | 694.67 |
| Honey Extractor | 18,266.67 | 5.67 | 1,461.33 |
| Dryer/Heat Exchanger | 2,246.67 | 6.50 | 179.73 |
| Wax Spinner/Separator | 6,133.33 | 5.16 | 490.67 |
| Honey Tank & Pipe | 6,066.67 | 5.17 | 697.67 |
| Feed Tank | 3,751.17 | 5.17 | 431.38 |
| Storage Vessel | .00 | .00 | .00 |
| Boiler Furnace | 1,776.67 | 4.83 | 142.13 |
| Water System | .00 | .00 | .00 |
| Compressor | 711.17 | 2.50 | 56.89 |
| Pressure Washer | 1,357.50 | 9.33 | 108.60 |
| Fuel Tank | .00 | .00 | .00 |
| Scales | 1,547.50 | 4.67 | 177.96 |
| Barrels | 4,138.00 | 2.83 | 475.87 |
| Barrel Loader | .00 | .00 | .00 |
| Carts | 1,041.58 | 2.17 | 119.78 |
| Fencers / Shockers | 360.00 | 2.67 | 41.40 |
| Shop Tools | 2,693.33 | 5.00 | 309.73 |
| Staplers | 1,083.33 | 3.33 | 124.58 |
| Office Equipment | .00 | .00 | .00 |
| Lawn Mower | 1,128.33 | 2.83 | 90.27 |
| Over-Wintering Insulation | 13,519.67 | 2.33 | 1,554.76 |
| Miscellaneous Equipment | 81,976.20 | 6.99 | 8,960.60 |
| **Equipment Sub - Total** | **582,898.12** | | **64,011.20** |
| Trucks | 131,075.64 | 4.20 | 10,486.05 |
| Tractors | 1,500.00 | 2.50 | 120.00 |
| Other Mach. | 15,466.67 | 2.01 | 1,231.00 |
| **Power Equipment Sub - Total** | **148,042.30** | | **11,837.05** |
| **TOTAL INVESTMENT** | **962,638.71** | | **86,623.80** |

$246 per hive. Average investment for vehicles was $148,042 per operation or $62 per hive. Details on land, buildings, bee equipment, and machinery (vehicles) investment are presented in Table 13.

# SECTION VI

## SUMMARY

This section provides a summary of the value of production (bulk honey sales and inventory, consumer pack sales and inventory, and any other honey sales, receipts from wax/pollen, crop insurance receipts, and miscellaneous income). It also provides estimates of cash costs, operator and family labour, capital costs and management indicators for the study sample of 12 beekeepers across the province for the 2002 honey crop. A gist of this information is also presented for the various groups by region and size of operation in Table 14.

Average yield per hive for the study sample was 171 pounds during the 2002 production year. This number is significantly higher than the provincial average of 131 pounds per hive. When yield per hive was compared among the groups by region, it ranged from 156 pounds for Group III (Peace Region) to about 180 pounds for Group II (North West). Among the five groups, average yield per hive was the highest at 189 pound for beekeepers in the up to 1,000 hives group.

Average total value of production (bulk honey sales, other honey sales and miscellaneous income) was $372 per hive for the study sample. It ranged from $324 per hive in the Southern, Central and North East Regions to $397 per hive in the North West Region. By size of operation, average value of production was $354 per hive for Group IV (up to 1,000 hives) and $377 per hive for Group V (over 1,000 hives).

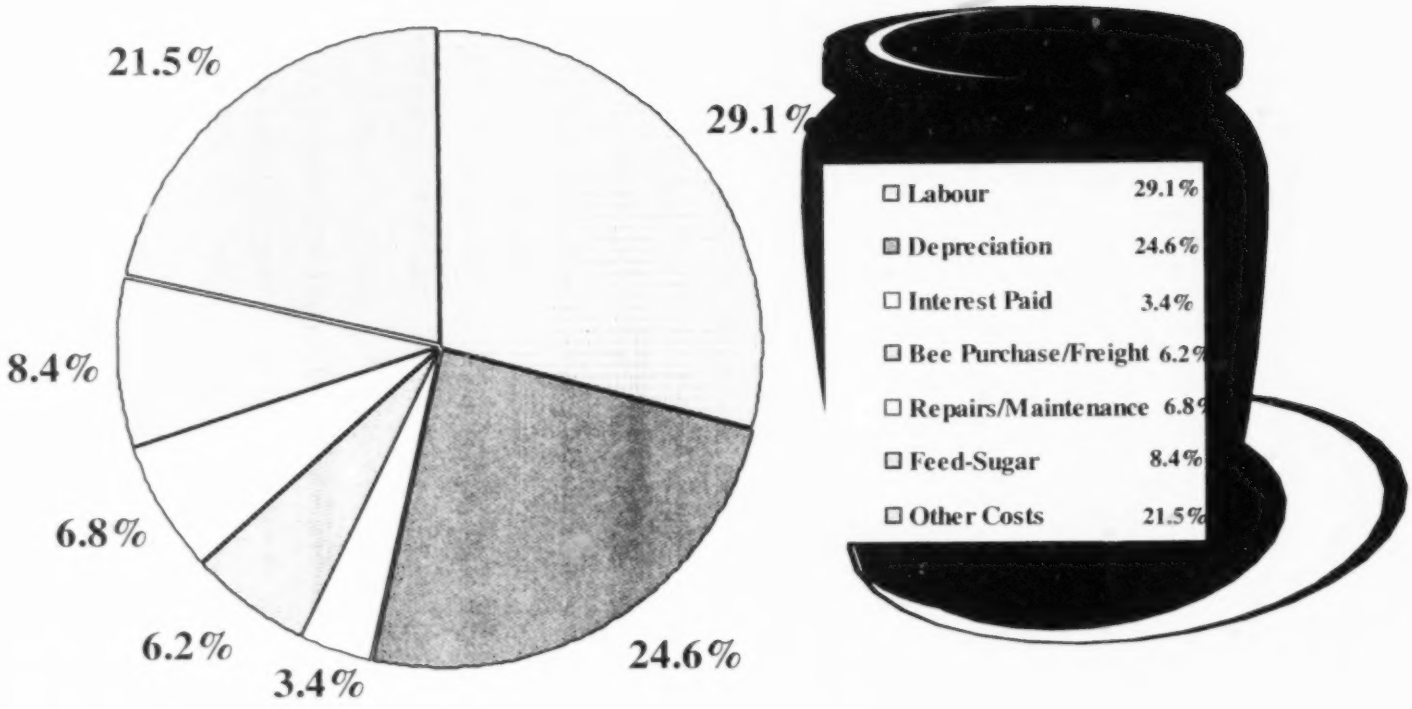
Details on cash costs (input costs, feed-sugar and hired labour), operator and family labour, capital costs are also presented in Table 16 for the study sample (Alberta), by regions and size of operation. Average total production cost was estimated at $159 per hive for the study sample ($0.93 per pound of honey produced). Figure 5 shows the relative proportions of all costs for honey production in Alberta. These costs ranged from $137 per hive in the Southern, Central and North-East Regions to $246 per hive in the Peace River Region. By size of operation, total production cost was $232 per hive ($1.22 per pound) for Group IV (up to 1,000 hives) and $141 per hive ($0.85 per pound) for Group V (over 1,000 hives).

## Table: 14 Summary of Honey Production Costs and Returns by Regions and Size of Operation, 2002

| | ALBERTA | | SOUTHERN CENTRAL NE REGIONS | | NORTH-WEST REGIONS | | PEACE RIVER REGIONS | | UP TO 1,000 HIVES | | OVER 1,000 HIVES | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Average Number of Hives | 1,485 | | 1,617 | | 1,879 | | 565 | | 598 | | 2,372 | |
| | Per Hive | Per Lbs Produced | Per Hive | Per Lbs Produced | Per Hive | Per Lbs Produced | Per Hive | Per Lbs Produced | Per Hive | Per Lbs Produced | Per Hive | Per Lbs Produced |
| Average Yield Per Hive(lbs) | 171.11 | | 155.95 | | 179.92 | | 155.85 | | 189.41 | | 166.50 | |
| Bulk Honey Sales ($) | 321.72 | 1.88 | 272.94 | 1.75 | 347.21 | 1.93 | 291.79 | 1.87 | 249.67 | 1.32 | 339.89 | 2.04 |
| Other Honey Sales/Inventory* | 43.87 | 0.25 | 47.23 | 0.30 | 41.98 | 0.23 | 46.77 | 0.30 | 103.84 | 0.55 | 29.42 | 0.18 |
| Miscellaneous Income | 6.36 | 0.04 | 3.65 | 0.02 | 8.07 | 0.04 | 2.71 | 0.02 | 2.67 | 0.01 | 7.29 | 0.04 |
| TOTAL VALUE OF PRODUCTION | 371.95 | 2.17 | 323.82 | 2.08 | 397.26 | 2.21 | 341.27 | 2.19 | 353.51 | 1.87 | 376.60 | 2.24 |
| Cash Costs ($) | 60.40 | 0.35 | 53.076 | 0.34 | 53.89 | 0.30 | 124.55 | 0.80 | 107.67 | 0.57 | 48.47 | 0.29 |
| Feed - Sugar | 13.29 | 0.08 | 8.39 | 0.05 | 14.63 | 0.08 | 18.38 | 0.12 | 18.10 | 0.10 | 12.08 | 0.07 |
| Hired Labour | 35.07 | 0.20 | 38.55 | 0.25 | 34.58 | 0.19 | 28.38 | 0.18 | 31.55 | 0.16 | 35.96 | 0.22 |
| A TOTAL CASH COSTS ($) | 108.76 | 0.64 | 100.01 | 0.64 | 103.10 | 0.57 | 171.31 | 1.10 | 157.32 | 0.83 | 96.51 | 0.58 |
| B Operator & Family Labour | 11.22 | 0.07 | 8.89 | 0.06 | 11.03 | 0.06 | 19.13 | 0.12 | 24.83 | 0.13 | 7.78 | 0.05 |
| C Capital Costs | 48.17 | 0.28 | 32.50 | 0.21 | 51.78 | 0.29 | 69.00 | 0.44 | 62.53 | 0.33 | 44.55 | 0.27 |
| TOTAL PRODUCTION COST-$ | 159.10 | 0.93 | 136.76 | 0.88 | 155.61 | 0.86 | 246.18 | 1.58 | 231.62 | 1.22 | 140.82 | 0.85 |
| RETURN OVER CASH COSTS ($) | 263.19 | 1.54 | 223.81 | 1.44 | 294.16 | 1.63 | 169.94 | 1.09 | 196.19 | 1.04 | 280.08 | 1.68 |
| RETURN TO INVESTMENT ($) | 217.16 | 1.27 | 187.59 | 1.20 | 247.88 | 1.38 | 97.48 | 0.63 | 123.49 | 0.65 | 240.77 | 1.45 |
| RETURN TO EQUITY ($) | 212.85 | 1.24 | 187.06 | 1.20 | 241.65 | 1.34 | 95.10 | 0.61 | 121.89 | 0.64 | 235.78 | 1.42 |
| AV. INVESTMENT PER HIVE ($) | 434.88 | 2.54 | 328.17 | 2.10 | 450.71 | 2.51 | 634.76 | 4.07 | 550.32 | 2.91 | 405.78 | 2.44 |

*Includes honey inventory and wax/pollen/other sales

# Figure 5: Breakdown of Honey Production Costs, 2002



Returns to value of honey production over cash costs were positive for the study sample and all groups (by regions and size of operation). The highest gross margin was $294 per hive ($1.63 per pound) for the honey producers in the North West Region. It was $224 in the Southern, Central and North Eastern Regions and $170 per hive in the Peace River Region. Average gross margin was $263 per hive for the study sample in 2002.

Gross margin or return over cash costs for honey producers by size of operation was $196 per hive ($1.04 per pound) for producers in Group IV (up to 1,000 hives) and $280 per hive ($1.68 per pound) for Group V (over 1,000 hives). Average return to unpaid labour for the study sample was positive at $224 per hive. The returns to investment was also positive at $217 per hive or almost 50 percent. These levels of returns have never been realized by the honey producers in Alberta. Return to equity was estimated at $213 per hive for the study sample.

Returns to unpaid labour for the beekeepers in Group I (Southern, Central and North East Regions), Group II (North West Region) and Group III (Peace River Region) were calculated to be $196, $253 and $114 per hive, respectively. Returns to unpaid labour were also significant at $147 per hive for Group IV (up to 1,000 hives) beekeepers and investment and $244 per hive for beekeepers in Group V (over 1,000 hives). The returns to investment and equity were positive. For the study sample and all of the groups (II to V) by regions and size of operation.

Details on management indicators for the study sample, by region and size of operation are presented in Table 14. Average investment per hive for the various groups, including the study sample, are also given in this Table. In 2002, investment per hive for the study sample of 12 beekeepers was estimated at $435. By regions, investment per hive ranged from $328 (Southern, Central and North East Regions) for Group I to $635 for Group III. By size of operation, average investment per hive was $550 for Group IV (up to 1,000 hives) and $406 Group V (over 1,000 hives).

# APPENDICES

**Table 1** **Honey Production Costs and Returns, Alberta, 2000**

| | | | | Total $ | $/Hive | $/Lb. |
|---|---|---|---|---|---|---|
| (A) | | | | | | |
| 1. Bulk Honey Sales | | 202,386.85 | lbs | 158,934.12 | 107.54 | .79 |
| 2. Bulk Honey Inventory | | 11,611.00 | lbs | 9,697.04 | 6.56 | |
| 3. Consumer Pack Sales | | 2,220.69 | lbs | 3,638.27 | 2.46 | |
| 4. Consumer Pack Inventory | | 114.62 | lbs | 85.96 | .06 | |
| 5. Other Honey Sales | | 1,818.46 | lbs | 1,773.12 | 1.20 | |
| 6. Wax/Pollen/Other Sales | | 4,194.62 | lbs | 9,353.69 | 6.33 | |
| 7. Crop Insurance Receipts | | | | .00 | .00 | |
| 8. Miscellaneous Receipts | | | | 3,427.10 | 2.32 | |
| 9. Less: Honey Purchase for Resale | | | | 1,101.53 | .75 | |
| **VALUE OF PRODUCTION** | | | | **188,010.83** | **127.21** | **.86** |
| (B) | | | | | | |
| 1. Bee Purchases - Package Bees | | | | 5,675.23 | 3.84 | |
| 2. Bee Purchases - Queens | | | | 5,855.54 | 3.96 | |
| 3. Freight & Trucking | | | | 2,931.24 | 1.98 | |
| 4. Feed - Sugar | | | | 14,333.88 | 9.70 | |
| 5. Medicinal Sugar/Bee Repellent | | | | 8,726.63 | 5.90 | |
| 6. Product & Crop Insurance | | | | 428.29 | .29 | |
| 7. Fuel | | | | 7,014.08 | 4.75 | |
| 8. Repairs - Machine | | | | 6,439.24 | 4.36 | |
| 9. Repairs - Buildings & Improvements | | | | 3,543.64 | 2.40 | |
| 10. Utilities & Heating Fuel | | | | 4,979.04 | 3.37 | |
| 11. Custom Work & Machine Rental | | | | 1,131.87 | .77 | |
| 12. Assoc. Dues, Prof'l Fees, Promotion & Travel | | | | 4,569.98 | 3.09 | |
| 13. Small Tools, Supplies & Miscellaneous Expenses | | | | 7,289.90 | 4.93 | |
| 14. Operating Interest | | | | 2,102.05 | 1.42 | |
| 15. Paid Labour & Benefits | | 3,647.93 | hours | 47,345.66 | 32.04 | |
| 16. Unpaid Labour | | 1,041.54 | hours | 10,936.15 | 7.40 | |
| **VARIABLE COSTS** | | | | **133,302.43** | **90.20** | **.61** |
| (C) | | | | | | |
| 1. Land Rent / Lease, Bldg. Rent & Forage Access | | | | 1,287.04 | .87 | |
| 2. Taxes, Licences & General Insurance | | | | 5,478.15 | 3.71 | |
| 3. Equipment & Building a) Depreciation | | | | 46,195.43 | 31.26 | |
| b) Lease Payments | | | | .00 | .00 | |
| 4. Paid Capital Interest | | | | 6,872.10 | 4.65 | |
| **TOTAL CAPITAL COSTS** | | | | **59,832.72** | **40.48** | **.27** |
| (D) **CASH COSTS** | (B+C-B16-C3a) | | | **136,003.57** | **92.02** | **.62** |
| (E) **TOTAL PRODUCTION COSTS** | (B+C) | | | **193,135.15** | **130.68** | **.89** |
| (F) **GROSS MARGIN** | (A-D) | | | **52,007.25** | **35.19** | **.24** |
| **RETURN TO UNPAID LABOUR** | (A-E+B16) | | | **5,811.83** | **3.93** | **.03** |
| **RETURN TO INVESTMENT** | (A-E+C4) | | 3 % | **1,747.78** | **1.18** | **.01** |
| **RETURN TO EQUITY** | (A-E) | | | **(5,124.33)** | **(3.47)** | **(.02)** |

**MANAGEMENT**

| | |
|---|---|
| Number of Hives | 1,477.92 |
| Average Yield per Hive (Lbs.) | 147.61 |
| Honey Produced (Lbs.) | 218,151.62 |

Table 2 **Honey Production Enterprise Investment, Alberta, 2000**

| **INVESTMENT SUMMARY:** | | **Total $** | | **$/Hive** |
|---|---|---|---|---|
| Land | 10.16 acres | 7,846.54 | | 5.31 |
| Buildings | | 130,069.51 | | 88.01 |
| Bee Equipment | | 323,304.63 | | 218.76 |
| Machinery | | 47,052.31 | | 31.84 |
| **TOTAL INVESTMENT** | | **508,272.99** | | **343.91** |
| **INVESTMENT DETAIL:** | | Enterprise Value ($) | Age (Years) | Depreciation ($) |
| **Land** | | **7,846.54** | | |
| Honey House | | 102,144.00 | 9.85 | 5,107.20 |
| Wintering Shed | | .00 | .00 | .00 |
| Houses(25%) | | 4,848.68 | 17.23 | 242.43 |
| Other Bldgs | | 23,076.83 | 10.36 | 1,153.84 |
| **Buildings Sub-Total** | | **130,069.51** | | **6,503.48** |
| Hives | | 231,285.38 | 9.31 | 26,597.82 |
| Pallets | | 3,809.31 | 4.54 | 438.07 |
| Fork Lift | | 923.08 | 3.31 | 73.85 |
| Hive Feeders | | 6,860.00 | 4.69 | 788.90 |
| Super Elevator | | .00 | .00 | .00 |
| Uncapping Machines | | 4,523.08 | 7.46 | 361.85 |
| Honey Extractor | | 10,216.54 | 7.08 | 817.32 |
| Dryer/Heat Exchanger | | 475.31 | 2.62 | 38.02 |
| Wax Spinner/Separator | | 3,300.00 | 7.46 | 264.00 |
| Honey Tank & Pipe | | 4,089.23 | 6.50 | 470.26 |
| Feed Tank | | 2,992.15 | 4.46 | 344.10 |
| Storage Vessel | | .00 | .00 | .00 |
| Boiler Furnace | | 1,107.69 | 5.08 | 88.62 |
| Water System | | .00 | .00 | .00 |
| Compressor | | 375.38 | 9.31 | 30.03 |
| Pressure Washer | | 1,560.77 | 5.46 | 124.86 |
| Fuel Tank | | .00 | .00 | .00 |
| Scales | | 1,388.85 | 10.46 | 159.72 |
| Barrels | | 2,413.08 | 2.42 | 277.50 |
| Barrel Loader | | .00 | .00 | .00 |
| Carts | | 1,065.77 | 4.54 | 122.56 |
| Fencers / Shockers | | 1,821.05 | 2.46 | 209.42 |
| Shop Tools | | 3,740.38 | 5.69 | 430.14 |
| Staplers | | 621.54 | 5.77 | 71.48 |
| Office Equipment | | 153.85 | .00 | 12.31 |
| Lawn Mower | | 2,229.92 | 4.08 | 178.39 |
| Over-Wintering Insulation | | 9,331.81 | 4.69 | 1,073.16 |
| Miscellaneous Equipment | | 29,020.46 | 6.10 | 2,655.39 |
| **Equipment Sub - Total** | | **323,304.63** | | **35,627.77** |
| Trucks | | 37,883.08 | 9.36 | 3,030.65 |
| Tractors | | 1,076.92 | .85 | 86.15 |
| Other Mach. | | 8,092.31 | 4.17 | 238.62 |
| **Power Equipment Sub - Total** | | **47,052.31** | | **3,355.42** |
| **TOTAL INVESTMENT** | | **508,272.99** | | **45,486.67** |

Table 3 **Honey Production Costs and Returns, By size of operation (up to 1000 Hives), 2000**

| | | | Total $ | $/Hive | $/Lb. |
|---|---|---|---|---|---|
| (A) | | | | | |
| 1. Bulk Honey Sales | 96,750.33 | lbs | 79,145.98 | 95.38 | .82 |
| 2. Bulk Honey Inventory | 0.00 | lbs | .00 | .00 | |
| 3. Consumer Pack Sales | 4,040.83 | lbs | 7,040.58 | 8.48 | |
| 4. Consumer Pack Inventory | 0.00 | lbs | .00 | .00 | |
| 5. Other Honey Sales | 2,785.00 | lbs | 3,187.00 | 3.84 | |
| 6. Wax/Pollen/Other Sales | 1,471.83 | lbs | 4,011.80 | 4.83 | |
| 7. Crop Insurance Receipts | | | .00 | .00 | |
| 8. Miscellaneous Receipts | | | 2,208.72 | 2.66 | |
| 9. Less: Honey Purchase for Resale | | | 166.67 | .20 | |
| **VALUE OF PRODUCTION** | | | **95,760.75** | **115.40** | .92 |
| (B) | | | | | |
| 1. Bee Purchases - Package Bees | | | 1,600.00 | 1.93 | |
| 2. Bee Purchases - Queens | | | 5,923.83 | 7.14 | |
| 3. Freight & Trucking | | | 1,928.81 | 2.32 | |
| 4. Feed - Sugar | | | 9,038.17 | 10.89 | |
| 5. Medicinal Sugar/Bee Repellent | | | 3,155.07 | 3.80 | |
| 6. Product & Crop Insurance | | | 186.83 | .23 | |
| 7. Fuel | | | 6,350.28 | 7.65 | |
| 8. Repairs - Machine | | | 3,917.68 | 4.72 | |
| 9. Repairs - Buildings & Improvements | | | 1,835.10 | 2.21 | |
| 10. Utilities & Heating Fuel | | | 4,851.63 | 5.85 | |
| 11. Custom Work & Machine Rental | | | 273.33 | .33 | |
| 12. Assoc. Dues, Prof'l Fees, Promotion & Travel | | | 3,404.62 | 4.10 | |
| 13. Small Tools, Supplies & Miscellaneous Expenses | | | 5,407.90 | 6.52 | |
| 14. Operating Interest | | | 2,332.62 | 2.81 | |
| 15. Paid Labour & Benefits | 1,451.50 | hours | 24,426.96 | 29.44 | |
| 16. Unpaid Labour | 943.33 | hours | 9,905.00 | 11.94 | |
| **VARIABLE COSTS** | | | **84,537.84** | **101.87** | .82 |
| (C) | | | | | |
| 1. Land Rent / Lease, Bldg. Rent & Forage Access | | | 718.83 | .87 | |
| 2. Taxes, Licences & General Insurance | | | 4,410.93 | 5.32 | |
| 3. Equipment & Building a) Depreciation | | | 25,304.84 | 30.49 | |
| b) Lease Payments | | | .00 | .00 | |
| 4. Paid Capital Interest | | | 2,543.33 | 3.06 | |
| **TOTAL CAPITAL COSTS** | | | **32,977.93** | **39.74** | .32 |
| (D) **CASH COSTS** (B+C-B16-C3a) | | | **82,305.93** | **99.18** | .79 |
| (E) TOTAL PRODUCTION COSTS (B+C) | | | 117,515.77 | 141.61 | 1.13 |
| (F) **GROSS MARGIN** (A-D) | | | **13,454.81** | **16.21** | .13 |
| RETURN TO UNPAID LABOUR (A-E+B16) | | | (11,850.02) | (14.28) | (.11) |
| RETURN TO INVESTMENT (A-E+C4) | | -6.9 % | (19,211.69) | (23.15) | (.19) |
| RETURN TO EQUITY (A-E) | | | (21,755.02) | (26.22) | (.21) |

MANAGEMENT

| | |
|---|---|
| Number of Hives | 829.83 |
| Average Yield per Hive (Lbs.) | 124.82 |
| Honey Produced (Lbs.) | 103,576.17 |

**Table 4** **Honey Production Enterprise Investment, By size of operation (up to 1000 Hives), 2000**

| INVESTMENT SUMMARY: | | Total $ | $/Hive |
|---|---|---|---|
| Land | 6.68 acres | 3,972.50 | 4.79 |
| Buildings | | 71,845.05 | 86.58 |
| Bee Equipment | | 180,059.17 | 216.98 |
| Machinery | | 21,154.17 | 25.49 |
| **TOTAL INVESTMENT** | | **277,030.89** | **333.84** |

| INVESTMENT DETAIL: | Enterprise Value ($) | Age (Years) | Depreciation ($) |
|---|---|---|---|
| **Land** | **3,972.50** | | |
| Honey House | 42,625.00 | 9.17 | 2,131.25 |
| Wintering Shed | .00 | .00 | .00 |
| Houses(25%) | 7,120.05 | 16.33 | 356.00 |
| Other Bldgs | 22,100.00 | 9.16 | 1,105.00 |
| **Buildings Sub-Total** | **71,845.05** | | **3,592.25** |
| Hives | 129,854.17 | 10.33 | 14,933.23 |
| Pallets | 1,520.00 | 7.50 | 174.80 |
| Fork Lift | 333.33 | 3.50 | 26.67 |
| Hive Feeders | 3,283.33 | 3.17 | 377.58 |
| Super Elevator | .00 | .00 | .00 |
| Uncapping Machines | 2,966.67 | 7.67 | 237.33 |
| Honey Extractor | 4,233.33 | 8.33 | 338.67 |
| Dryer/Heat Exchanger | .00 | .00 | .00 |
| Wax Spinner/Separator | 2,316.67 | 5.17 | 185.33 |
| Honey Tank & Pipe | 3,216.67 | 5.17 | 369.92 |
| Feed Tank | 2,183.33 | 2.67 | 251.08 |
| Storage Vessel | .00 | .00 | .00 |
| Boiler Furnace | 1,283.33 | 3.00 | 102.67 |
| Water System | .00 | .00 | .00 |
| Compressor | 433.33 | 7.67 | 34.67 |
| Pressure Washer | 1,182.50 | 6.50 | 94.60 |
| Fuel Tank | .00 | .00 | .00 |
| Scales | 1,146.67 | 11.00 | 131.87 |
| Barrels | 3,188.33 | 2.08 | 366.66 |
| Barrel Loader | .00 | .00 | .00 |
| Carts | 650.00 | 3.67 | 74.75 |
| Fencers / Shockers | 758.33 | 3.67 | 87.21 |
| Shop Tools | 3,166.67 | 6.33 | 364.17 |
| Staplers | 313.33 | 5.50 | 36.03 |
| Office Equipment | .00 | .00 | .00 |
| Lawn Mower | 2,483.33 | 5.83 | 198.67 |
| Over-Wintering Insulation | 4,312.50 | 4.17 | 495.94 |
| Miscellaneous Equipment | 11,233.33 | 6.15 | 1,091.75 |
| **Equipment Sub - Total** | **180,059.17** | | **19,973.58** |
| Trucks | 17,850.00 | 12.31 | 1,428.00 |
| Tractors | 666.67 | .00 | 53.33 |
| Other Mach. | 2,637.50 | 4.64 | 104.33 |
| **Power Equipment Sub - Total** | **21,154.17** | | **1,585.67** |
| **TOTAL INVESTMENT** | **277,030.89** | | **25,151.50** |

Table 5 **Honey Production Costs and Returns, By size of operation (over 1000 Hives), 2000**

| | | | | Total $ | $/Hive | $/Lb. |
|---|---|---|---|---|---|---|
| (A) | | | | | | |
| | 1. Bulk Honey Sales | 292,932.43 | lbs | 227,323.94 | 111.79 | .78 |
| | 2. Bulk Honey Inventory | 21,563.29 | lbs | 18,008.79 | 8.86 | |
| | 3. Consumer Pack Sales | 660.57 | lbs | 722.00 | .36 | |
| | 4. Consumer Pack Inventory | 212.86 | lbs | 159.64 | .08 | |
| | 5. Other Honey Sales | 990.00 | lbs | 561.21 | .28 | |
| | 6. Wax/Pollen/Other Sales | 6,528.43 | lbs | 13,932.46 | 6.85 | |
| | 7. Crop Insurance Receipts | | | .00 | .00 | |
| | 8. Miscellaneous Receipts | | | 4,471.43 | 2.20 | |
| | 9. Less: Honey Purchase for Resale | | | 1,902.84 | .94 | |
| | **VALUE OF PRODUCTION** | | | **267,082.32** | **131.35** | .84 |
| (B) | | | | | | |
| | 1. Bee Purchases - Package Bees | | | 9,168.29 | 4.51 | |
| | 2. Bee Purchases - Queens | | | 5,797.00 | 2.85 | |
| | 3. Freight & Trucking | | | 3,790.47 | 1.86 | |
| | 4. Feed - Sugar | | | 18,873.06 | 9.28 | |
| | 5. Medicinal Sugar/Bee Repellent | | | 13,502.24 | 6.64 | |
| | 6. Product & Crop Insurance | | | 635.26 | .31 | |
| | 7. Fuel | | | 7,583.05 | 3.73 | |
| | 8. Repairs - Machine | | | 8,600.58 | 4.23 | |
| | 9. Repairs - Buildings & Improvements | | | 5,008.10 | 2.46 | |
| | 10. Utilities & Heating Fuel | | | 5,088.26 | 2.50 | |
| | 11. Custom Work & Machine Rental | | | 1,867.75 | .92 | |
| | 12. Assoc. Dues, Prof'l Fees, Promotion & Travel | | | 5,568.86 | 2.74 | |
| | 13. Small Tools, Supplies & Miscellaneous Expenses | | | 8,903.04 | 4.38 | |
| | 14. Operating Interest | | | 1,904.43 | .94 | |
| | 15. Paid Labour & Benefits | 5,530.59 | hours | 66,990.26 | 32.94 | |
| | 16. Unpaid Labour | 1,125.71 | hours | 11,820.00 | 5.81 | |
| | **VARIABLE COSTS** | | | **175,100.65** | **86.11** | .55 |
| (C) | | | | | | |
| | 1. Land Rent / Lease, Bldg. Rent & Forage Access | | | 1,774.07 | .87 | |
| | 2. Taxes, Licences & General Insurance | | | 6,392.92 | 3.14 | |
| | 3. Equipment & Building a) Depreciation | | | 64,101.65 | 31.52 | |
| | b) Lease Payments | | | .00 | .00 | |
| | 4. Paid Capital Interest | | | 10,582.48 | 5.20 | |
| | **TOTAL CAPITAL COSTS** | | | **82,851.11** | **40.74** | .26 |
| (D) | **CASH COSTS** (B+C-B16-C3a) | | | **182,030.12** | **89.52** | .58 |
| (E) | **TOTAL PRODUCTION COSTS** (B+C) | | | **257,951.77** | **126.86** | .82 |
| (F) | **GROSS MARGIN** (A-D) | | | **85,052.20** | **41.83** | .27 |
| | **RETURN TO UNPAID LABOUR** (A-E+B16) | | | **20,950.56** | **10.30** | .07 |
| | **RETURN TO INVESTMENT** (A-E+C4) | | 2.8 % | **19,713.04** | **9.69** | .06 |
| | **RETURN TO EQUITY** (A-E) | | | **9,130.56** | **4.49** | .03 |

**MANAGEMENT**

| | |
|---|---|
| Number of Hives | 2,033.43 |
| Average Yield per Hive (Lbs.) | 155.58 |
| Honey Produced (Lbs.) | 316,359.14 |

**Table 6** **Honey Production Enterprise Investment, By size of operation (over 1000 Hives), 2000**

| INVESTMENT SUMMARY: | | Total $ | $/Hive |
|---|---|---|---|
| Land | 13.14 acres | 11,167.14 | 5.49 |
| Buildings | | 179,976.19 | 88.51 |
| Bee Equipment | | 446,086.46 | 219.38 |
| Machinery | | 69,250.71 | 34.06 |
| **TOTAL INVESTMENT** | | **706,480.51** | **347.43** |

| INVESTMENT DETAIL: | Enterprise Value ($) | Age (Years) | Depreciation ($) |
|---|---|---|---|
| **Land** | **11,167.14** | | |
| Honey House | 153,160.29 | 10.43 | 7,658.01 |
| Wintering Shed | .00 | .00 | .00 |
| Houses(25%) | 2,901.79 | 18.00 | 145.09 |
| Other Bldgs | 23,914.12 | 11.39 | 1,195.71 |
| **Buildings Sub-Total** | **179,976.19** | | **8,998.81** |
| Hives | 318,226.43 | 8.43 | 36,596.04 |
| Pallets | 5,771.58 | 2.00 | 663.73 |
| Fork Lift | 1,428.57 | 3.14 | 114.29 |
| Hive Feeders | 9,925.71 | 6.00 | 1,141.46 |
| Super Elevator | .00 | .00 | .00 |
| Uncapping Machines | 5,857.14 | 7.29 | 468.57 |
| Honey Extractor | 15,345.00 | 6.00 | 1,227.60 |
| Dryer/Heat Exchanger | 882.71 | 4.86 | 70.62 |
| Wax Spinner/Separator | 4,142.86 | 9.43 | 331.43 |
| Honey Tank & Pipe | 4,837.14 | 7.64 | 556.27 |
| Feed Tank | 3,685.43 | 6.00 | 423.82 |
| Storage Vessel | .00 | .00 | .00 |
| Boiler Furnace | 957.14 | 6.86 | 76.57 |
| Water System | .00 | .00 | .00 |
| Compressor | 325.71 | 10.71 | 26.06 |
| Pressure Washer | 1,885.00 | 4.57 | 150.80 |
| Fuel Tank | .00 | .00 | .00 |
| Scales | 1,596.43 | 10.00 | 183.59 |
| Barrels | 1,748.57 | 2.71 | 201.09 |
| Barrel Loader | .00 | .00 | .00 |
| Carts | 1,422.14 | 5.29 | 163.55 |
| Fencers / Shockers | 2,731.95 | 1.43 | 314.17 |
| Shop Tools | 4,232.14 | 5.14 | 486.70 |
| Staplers | 885.71 | 6.00 | 101.86 |
| Office Equipment | 285.71 | .00 | 22.86 |
| Lawn Mower | 2,012.71 | 2.57 | 161.02 |
| Over-Wintering Insulation | 13,634.07 | 5.14 | 1,567.92 |
| Miscellaneous Equipment | 44,266.57 | 6.05 | 3,995.66 |
| **Equipment Sub - Total** | **446,086.46** | | **49,045.65** |
| Trucks | 55,054.29 | 6.83 | 4,404.34 |
| Tractors | 1,428.57 | 1.57 | 114.29 |
| Other Mach. | 12,767.86 | 3.78 | 353.71 |
| **Power Equipment Sub - Total** | **69,250.71** | | **4,872.34** |
| **TOTAL INVESTMENT** | **706,480.51** | | **62,916.81** |

## Table 7: Summary of Honey Production Costs and Returns by Regions and Size of Operation, 2000

| | ALBERTA | | SOUTHERN CENTRAL NE REGIONS | | NORTH-WEST REGIONS | | PEACE RIVER REGIONS | | UP TO 1,000 HIVES | | OVER 1,000 HIVES | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Average Number of Hives | 1,478 | | 1,603 | | 1,746 | | 1,018 | | 830 | | 2,033 | |
| | Per Hive | Per Lb Produced | Per Hive | Per Lb Produced | Per Hive | Per Lb Produced | Per Hive | Per Lb Produced | Per Hive | Per Lb Produced | Per Hive | Per Lb Produced |
| Average Yield Per Hive(lbs) | 147.61 | | 181.30 | | 135.34 | | 120.85 | | 124.82 | | 155.58 | |
| Bulk Honey Sales ($) | 107.54 | 0.73 | 134.56 | 0.74 | 94.93 | 0.70 | 92.02 | 0.76 | 95.38 | 0.76 | 111.79 | 0.72 |
| Other Honey Sales/Inventory* | 10.28 | 0.07 | 9.23 | 0.05 | 10.96 | 0.08 | 10.58 | 0.09 | 12.32 | 0.10 | 9.58 | 0.06 |
| Miscellaneous Income | 9.40 | 0.06 | 5.03 | 0.03 | 7.04 | 0.05 | 21.31 | 0.18 | 7.69 | 0.06 | 9.99 | 0.06 |
| TOTAL VALUE OF PRODUCTION | 127.21 | 0.86 | 148.82 | 0.82 | 112.88 | 0.83 | 123.91 | 1.03 | 115.4 | 0.92 | 131.35 | 0.84 |
| Cash Costs ($) | 50.28 | 0.34 | 67.83 | 0.37 | 32.83 | 0.24 | 60.09 | 0.50 | 58.85 | 0.47 | 47.30 | 0.30 |
| Feed - Sugar | 9.70 | 0.07 | 12.62 | 0.07 | 4.45 | 0.03 | 16.36 | 0.13 | 10.89 | 0.09 | 9.28 | 0.06 |
| Hired Labour | 32.04 | 0.28 | 35.28 | 0.20 | 25.92 | 0.19 | 40.04 | 0.33 | 29.44 | 0.23 | 32.94 | 0.22 |
| A TOTAL CASH COSTS ($) | 92.02 | 0.62 | 115.73 | 0.64 | 63.20 | 0.47 | 116.49 | 0.96 | 99.18 | 0.79 | 89.52 | 0.58 |
| B Operator & Family Labour | 7.40 | 0.05 | 7.53 | 0.04 | 8.32 | 0.06 | 5.21 | 0.04 | 11.94 | 0.10 | 5.81 | 0.04 |
| C Capital Costs | 31.26 | 0.21 | 36.93 | 0.20 | 28.72 | 0.21 | 27.78 | 0.23 | 30.49 | 0.24 | 31.52 | 0.20 |
| TOTAL PRODUCTION COST ($) | 130.68 | 0.89 | 160.19 | 0.88 | 100.20 | 0.74 | 149.48 | 1.24 | 141.61 | 1.13 | 126.86 | 0.82 |
| RETURN OVER CASH COSTS ($) | 35.19 | 0.24 | 33.09 | 0.18 | 49.68 | 0.37 | 7.42 | 0.06 | 16.21 | 0.13 | 41.83 | 0.27 |
| RETURN TO INVESTMENT ($) | 1.18 | 0.01 | -4.07 | -0.02 | 13.71 | 0.10 | -17.40 | -0.14 | -23.15 | -0.19 | 9.69 | 0.06 |
| RETURN TO EQUITY ($) | -3.47 | -0.02 | -11.36 | -0.06 | 12.64 | 0.09 | -25.57 | -0.21 | -26.22 | -0.21 | 4.49 | 0.03 |
| AV. INVESTMENT PER HIVE ($) | 343.91 | 2.33 | 381.59 | 2.11 | 327.42 | 2.42 | 319.93 | 2.65 | 333.84 | 2.67 | 347.43 | 2.23 |

*Includes honey inventory and wax/pollen/other sales.